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Activity Report 109

Health of Children Living in Urban Slums in Asia and the Near East: Review of Existing Literature and Data

by

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Contents

Preface

This report differs from most others concerning urban issues in that it focuses on child health, rather than urbanization. Thus the questions raised and issues discussed are not about urbanization, per se, but rather about the significance of urbanization with respect to the health of the poorest children living in the poorest settlements in cities. The underlying purpose of this study is to support the design of effective program interventions to improve the health of these children. The report tries to deal with the questions of what is different about the living situations and life chances of these children (compared with the "average" urban situation or with that of children in rural areas) and to identify special opportunities, as well as obstacles, related to their health. In short, what is special about children and child health in poor urban areas? And what changes, if any, in method and programs are needed to reach these children more effectively?

These questions are particularly important in Asia and the Near East because of the rapid pace of urbanization in that area. In the next decade most of the U.S. Agency for International Development's clients in the region will be living in urban areas, so the question is not whether we should undertake or expand child health projects in poor urban areas, but rather how best to continue, expand, and, we hope, improve our activities in this venue.

Acknowledgments

About the Authors

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William J. Cousins earned his doctorate in sociology from Yale University and began his career as a college teacher. He has taught at Knoxville, Wellesley, Earlham, and Federal City Colleges, but most of his work has been in international development. He has served overseas in India, Iran, and several other countries, with agencies such as the American Friends Service Committee, the U.S. Agency for International Development (USAID), the Peace Corps, CARE, and the UN Children's Fund (UNICEF), from which he retired as a senior urban adviser. Dr. Cousins is the author of a number of articles on community development, community participation, and urban development.

Sarah K. Fry

Sarah K. Fry has been active in community environmental health for 20 years. She has worked as a health education adviser on the USAID Rural Water Supply and Sanitation Project in Togo, she has conducted many subsequent consultancies in environmental health and hygiene for the Water and Sanitation for Health (WASH) Project and others, and she has written a number of training guides and other documents. She designed CARE/Madagascar's USAID-funded Tana Opportunities for Urban Child Health Project and acted as its training adviser. Ms. Fry has an master's degree in public health from the University of North Carolina at Chapel Hill.

Kenneth Olivola

Kenneth Olivola has 25 years of experience in urban planning and architecture, public health, and management, of which 20 years includes working in less developed countries. He has been resident in Ahmedabad, India; Dhaka, Bangladesh; Brazzaville, Congo; and; Rabat, Morocco. He has worked with UN agencies, municipal government, educational institutions, private consulting firms, and nongovernmental organizations. His specialization is in the social, physical, environmental and management aspects of third-world urban development, with emphasis on health and family planning. His most recent position is director for the Boston International Division of John Snow, Inc. He has advanced degrees in urban planning and architecture from the University of California, Berkeley.

Abbreviations

ANE	Asia and the Near East
ARI	acute respiratory infection(s)
DFID	Department for International Development, United Kingdom
DHS	demographic and health survey
EHP	Environmental Health Project
HPN	health, population, and nutrition
ICDDR,B	International Centre for Diarrheal Disease Research, Bangladesh
IMR	infant mortality rate
KPC Survey	Knowledge, Practice, and Coverage Survey
LSHTM	London School of Tropical Medicine and Hygiene
MICS	Multiple Indicator Cluster Survey
MMR	maternal mortality ratio
NFHS	National Family and Health Survey
NGO	nongovernmental organization
OMNI	Opportunities for Micronutrient Interventions Project
ORS	oral rehydration solution
ORT	oral rehydration therapy
RUDO	regional urban development office
SPARC	Society for Promotion of Area Resource Centres, India
TB	tuberculosis
WASH Project	Water and Sanitation for Health Project
WHO	World Health Organization
UNAIDS	Joint UN Program on HIV/AIDS

UNCHS	UN Human Settlements Program (Habitat)
UNDP	UN Development Program
UNICEF	UN Children's Fund
UNPOP	UN Population Division
URL	uniform resource locator
USAID	U.S. Agency for International Development

Executive Summary

Background

This activity report arose from concerns among the U.S. Agency for International Development's (USAID's) Asia–Near East (ANE) region health officers that USAID's health programming is not keeping pace with the reality of rampant urbanization and the dire conditions of small children in the region's slums. USAID's ANE Bureau asked the Environmental Health Project (EHP) to carry out a multiphase activity to address these concerns:

Phase I: Literature review to answer the question, What is known about child health conditions in urban slums?

Phase II: Data collection and program planning activity in one or two ANE countries; development of regional programming guidelines.

Phase III: Advocacy and urban slum programming assistance aimed at USAID missions in the entire region based on results of Phases I and II.

Purpose and Audience

The overall purpose of the activity is to catalyze the ANE region into undertaking effective programs for the benefit of urban slum dwellers. This document is the product of Phase I, a desktop research and literature review whose purpose is to investigate the hypothesis that, in general, urban slum children are worse off than children in better-off urban areas and rural areas. It is aimed at health, population, and nutrition officers in USAID's ANE Bureau; agency policymakers; mission directors; mission health, population, and nutrition officers; and regional urban development office personnel.

Guiding Principles and Methodology

During the planning and design stage, USAID and EHP jointly decided to frame the survey as follows:

- Focus the survey on children under five years old.

- Select three countries and cities to represent the subregions of ANE.

- Rely on statistical evidence.

- Identify trends in urban programming over the past two decades.

- Include case studies of successful urban programs (countries and cities selected were India and Ahmedabad, the Philippines and Manila, and Egypt and Cairo).

To guide the literature search, the team defined a set of child health status and determinants indicators in the following categories: mortality, morbidity, malnutrition, family practices related to management and prevention of childhood illness and good perinatal care, availability and accessibility of health facilities, and environmental health (water, sanitation, air pollution). The objective was to use commonly accepted indicators most likely to appear in major data sets, such as the demographic and health surveys (DHSs), permitting comparisons among national averages, urban averages, rural averages, and whatever urban slum data were available. In addition, the indicator set is intended to guide Phase II data collection in selected urban slums and to be linked to program interventions.

The search for available literature was done through electronic means and identification and location of relevant documents. A special effort was made to contact agencies and individuals worldwide with roles in urban slum programs and to identify reports and studies that may not be widely circulated. The bulk of the documentation was found through collections at EHP and other local (Washington, D.C.) agencies and from World Wide Web–based resources. Efforts to track down unpublished or internal reports and studies were not fruitful, possibly because few exist.

State of Urban Health Data

Research on urban slums encounters a critical problem. Existing data are rarely disaggregated according to intraurban location or socioeconomic criteria. Data sets such as DHS disaggregate by "urban" and "rural," but go no further. Thus, slum populations and the poorest squatters are statistically identical to middle class and wealthy urban dwellers. Worse yet, the poorest urban populations are often not included at all in data gathering. Nonetheless, several efforts have been made over the past 20 years to reanalyze large data sets where the geographic origins of the data can clearly be identified as "slum" and "nonslum." Additionally, the World Bank's Poverty Thematic Group has disaggregated DHS data for all countries by socioeconomic quintile, using household assets to define the groupings. The EHP team also analyzed four data sets on Gujarat State in India by economic quintile. Without exception, disaggregated data show dramatic differences in health indicators between slum and nonslum populations or between the lower and upper economic quintiles. There is a great need to promote disaggregated urban data collection.

Child Health Status and Determinants: Results of Literature Review

Ahmedabad

Ahmedabad's slums are benefiting from increasing attention by local and international agencies. Data on child health conditions there are more abundant than for the other locations surveyed.

Infant mortality rates are twice as high in slums as the national *rural* average. Slum children under five suffer more and die more often from diarrhea and acute respiratory infection than rural children. On average, slum children are more nutritionally wasted than all children in Gujarat State.

Nearly all available data on the determinants of child health suggest the following reasons for this poor health status:

- Slum immunization rates are half those of rural children, and slum children experiencing diarrhea receive oral rehydration therapy half as frequently as rural children.

- Measles immunization is closer to rural rates, but still very low. Measles is particularly dangerous in crowded urban settings.

- The mothers of slum children receive less antenatal care and fewer preventive immunizations than rural women.

- Lack of clean water supply and sanitation are critical problems for slum dwellers in Ahmedabad, creating an unhygienic, fecally contaminated environment.

- The severely polluted air of the city of Ahmedabad and use of cooking fuels inside crowded, unventilated dwellings explain the high prevalence of acute respiratory infection.

One area where slum children appear to have an advantage over their rural counterparts is in the availability of health practitioners. However, this apparent advantage requires further study to determine the impact on health for under-fives. Data for HIV/AIDS, tuberculosis, malaria, and accidents for children under five in Ahmedabad's slums were not found.

Manila

The overall picture of child health status in the squatter settlements of Metro Manila appears alarming, although no study was found that directly addressed the issue. Infant mortality rates in Manila's slums are *triple* those of nonslum areas. There is also evidence of a high incidence of tuberculosis, diarrheal disease, parasitic infections, dengue, and severe malnutrition affecting slum children.

The crowded and dangerous conditions of the slums, the serious water supply problem and lack of proper sanitation, the severe air pollution, and the effects of the Asian economic crisis explain the poor health status of small children. However, empirical evidence from studies of determinants of child health in urban slums, especially family practices, was not found. As with Ahmedabad, Manila slum dwellers do have access to health facilities and other institutions. Data for HIV/AIDS, tuberculosis, malaria, and accidents for children under five in Manila slums were not found.

Cairo

Data related to urban slum child health in Cairo is difficult to come by. Nearly three-quarters of all children under five in a Cairo squatter settlement suffered from an infectious disease during the preceding two weeks; one-quarter of these had had both diarrhea and acute respiratory infection. The proportion of malnourished children under five in a Cairo squatter settlement is double the proportion for all of Cairo, and nearly all two-year-olds have intestinal parasites.

Overall, the determinants of child health in unauthorized urban settlements are poor. Unacceptable ambient air pollution adds another debilitating factor. However, in contrast to the populations in Asian cities, the population of Cairo in its entirety appears to have reasonable access to water and sewer connections, although this would need to be verified for the most marginalized of settlements. Gender issues affect poverty levels by limiting employment opportunities for female heads of households and also affect access to health facilities among the poorest women. These issues require further investigation. Data for HIV/AIDS, tuberculosis, malaria, and accidents for children under five in Cairo's slums were not found.

Evidence from Other Countries

A number of studies were found on various aspects of child health and survival in urban slums throughout the ANE region. All provide evidence of unacceptably high mortality and morbidity rates for slum children, and some provide comparisons between slum and nonslum populations.

Overview of Urbanization in Asia and the Near East

Global urbanization is unprecedented. In five years, the number of urban dwellers is expected to exceed rural dwellers for the first time in history. Urban growth rates in the ANE region are among the highest on earth. By 2025, 2.5 billion people—double the current number—will live in cities, and 6 out of 10 children will live in urban areas.

The fastest urban growth is occurring on the fringes of cities, creating mega-agglomerations of mostly illegal squatter settlements. Urban poverty is increasing as fast as cities are growing. Soon, most of USAID's child survival client population—children under five—will be found in urban slums.

In the past, development agencies traditionally focused on rural areas. This bias arose from the rural nature of developing countries 50 years ago and the need for food self-sufficiency, prompting rural development experts from the United States and Europe to define development assistance along rural extension lines. The lack of attention to rural-urban migration and natural increase of urban populations has led to large segments of underserved and disenfranchised people living in urban poverty.

Urbanization in India

India's urban population increased by 31.2% between 1991 and 2001—nearly double the increase of 17.9% in rural population over the same period. Sheer numbers characterize India's urban population, which is the second largest in the world after China. India's urban population is expected to reach 660 million by 2025. Twenty-three urban centers have more than a million inhabitants, and 30% to 40% of urban dwellers are estimated to live in poverty, Even more alarming is the fact that urban poverty is often underestimated. Many of the urban poor live in unrecognized squatter colonies or on the pavement.

Urbanization in the Philippines

From 1992 to 1998, the Philippines' urban population rose from 52% to 58% of the national total. The average annual urban growth is 3.7%, whereas the overall growth rate is 2.3%. Metro Manila is a megacity of 17 cities and municipalities, home to 10.5 million people in 2000. However, Davao and Cebu are growing nine times faster than Manila. Squatters or informal settlers form close to the majority of urban dwellers and thus live in poverty without civic amenities, because urban development policies have not kept up with urban growth.

Urbanization in Egypt

Egypt was 45% urban in 1998, with an annual urban growth rate of 2.1%. Cairo, with a 2000 population of 10.6 million, is the largest city in Africa. Cairo's population is expected to reach 13.8 million by 2015. The UN Human Settlements Program (UNCHS) claims that 70% of Cairo's inhabitants live in unauthorized squatter settlements. Unlike Asian slums, these settlements have taken on rural characteristics. Water supply and sanitation coverage for all settlements in Cairo is high compared with Asian cities.

Description of the Urban Poor

Location and Living Conditions

The urban poor often live on undesirable land, making use of areas such as cemeteries or interstitial spaces. The poor also take over and subdivide large residential buildings or rent rooms in residential areas, thus becoming obscured. Many live on the pavement or in dilapidated tenements. Squatter areas tend to be in dangerous locations, for example, next to railroad tracks or on riverbanks, floodplains, or landfill sites. Dangers are greatest for young children. Squatter housing tends to be made from flimsy scrounged materials that do not stand up under bad weather. Flooding is a frequent problem, as is housing shortage.

Illegality or lack of tenure is a key feature of urban squatter settlements. Threats and fear of eviction are commonplace. Resettlement schemes rarely work, because the old land often is convenient to work opportunities in the center city, and new areas tend

to be farther out on the periphery. Another feature of urban poverty is overcrowding, with several families crammed into a single room. Diseases, such as tuberculosis and measles, spread rapidly under such living conditions.

Environmental Health Conditions

Lack of water supply and sanitation facilities characterizes urban squatter areas. People line up at neighborhood standpipes, buy from vendors, or tap pipes illegally to obtain water. Some settlements have community toilets that are generally unsatisfactory. Most frequently, people defecate in pits or in the open or in ditches, canals, or rivers. The public health consequences are severe, especially for young children.

Solid waste collection is also rare in poor urban areas. Accumulated waste creates mountains of garbage that are the homes and work sites of scavengers, who are often children. Biomedical waste poses a special threat to the health of the urban poor. Garbage dumps are also breeding sites for rodents and insects, such as mosquitoes, which carry dengue and malaria.

Cities in the developing world have two to eight times the maximum tolerable levels of air pollution as defined by the World Health Organization. In Asia, motor vehicles as well as unregulated industries emit smoke and particles that lead to lung disease. Lead in the air from leaded gasoline puts small children at risk for lower intelligence quotients.

Sociocultural and Economic Conditions

Factors such as marginalization, illiteracy, class or caste status, and gender can determine whether a group lives in urban poverty or not. Cities also have "relative inequality," where poverty is not absolute but rather is measured by the opportunity and resource difference between "haves" and "have-nots" living close to each other. Social and economic heterogeneity weakens urban poor communities. A majority of urban poor households are headed by women who must earn a living. This situation has consequences on the health and development of small children. Small children are often also in the workforce. The urban poor mostly work in the informal economic sector at the lowest paying and most insecure jobs.

Hidden Strengths of the Urban Poor

The urban poor are resourceful survivors who live by the principle of self-help. Many are skilled entrepreneurs. Slums and settlements often turn out to be stable and homogeneous communities rather than chaotic agglomerations. The challenge is to tap this strength to create the foundation for health and welfare interventions.

Players and Programs

Urban stakeholders, bureaucracies, and players in the health area are more numerous and complex than in rural areas. USAID health, population, and nutrition officers must be open to nontraditional partners when dealing with urban slum health programming.

Local-level urban health players include municipal health services, traditional health practitioners, private practitioners and facilities, private industry, national health insurance schemes, municipal elected officials, and nongovernmental organizations.

National-level players include the ministry of health; ministries dealing with urban affairs; international, regional, and bilateral organizations; nongovernmental organizations, and nationally elected officials.

International donors with urban interests include the UN Children's Fund (UNICEF), the World Health Organization, the World Bank, the UN Development Program, the U.K. Department for International Development (DFID), and nongovernmental organizations, such as Oxfam and CARE. Historically, UNICEF, the World Health Organization, and the World Bank have been leaders in urban slum health and infrastructure improvement, providing tested and proven models for interventions. USAID has intervened in the urban world through its regional urban development offices. A decade ago USAID hosted two workshops on urban health whose analyses and recommendations are still highly relevant.

Conclusions and Recommendations

The main conclusions of this activity are that available data support the hypothesis that urban slum child health is generally worse than national and rural averages. Data also show that children under five in slums suffer from the same illnesses as rural children. USAID's traditional child survival interventions are relevant; however, urban programming has stagnated. Given the skyrocketing numbers of urban dwellers in the ANE region, the time for action by USAID is now. Further studies of the problems of the urban poor should be linked to program interventions.

Key Recommendations

Policy for Asia and the Near East

- Develop clear regional urban health policy and program strategies.

- Mine the rich results of past USAID investment in developing urban health policy and program guidelines (1991 Office of Health workshops on health in the urban setting) to guide present policy and program directions.

- Build on the historical precedents and the program models provided by UNICEF and others in urban slum child health.

- Commit financial and technical resources to urban environmental health and child survival at a level commensurate with the urgency of the problem.

- Develop an urban health World Wide Web site or a page on EHP's Web site as a resource for urban health interventions.

- Support disaggregation and analysis of existing DHS data for Asian cities with databases large enough to permit statistically valid disaggregation and analysis.

- Press for inclusion of slum sampling in future USAID-sponsored DHSs.

Urban Child Health Programming Support for Asia and the Near East

- Offer technical assistance in program development for countries interested in implementing urban slum child health interventions.

- Produce regional urban health programming guidelines

Advocacy for Urban Slum Child Health for Missions in Asia and the Near East

- Advocate for urban child health programming as a policy priority for the ANE region that is consistent with USAID's child survival mandate from Congress.

- Identify successful urban slum health programs in the region, and arrange site visits for interested health, population, and nutrition officers and other appropriate mission personnel.

1 Introduction

Background

This activity report has its origin in three distinct but related factors. First, Doug Heisler and Lily Kak of the U.S. Agency for International Development (USAID) Asia and Near East (ANE) Bureau began to express their concerns about the health needs of the urban poor in the rapidly urbanizing ANE region, and especially about poor children living in unauthorized slums and shantytowns. Two questions in particular emerged: (1) What is causing children in these settlements to get sick and often die before their time? and (2) What do we know and what do we not know about these causes? To look into these questions, the ANE Bureau turned to the Environmental Health Project (EHP). Second, EHP and its predecessor, the Water and Sanitation for Health (WASH) Project, has had a long-standing interest in the environmental health needs of the urban poor, as well as considerable experience in developing program strategies and guidelines to address these needs. Third, USAID/India expressed interest in exploring the development of an urban health project in one or both of two cities: Ahmedabad and Indore. To this end, USAID/India sought the assistance of EHP.

These factors set the stage for EHP to respond to the concerns of both the ANE Bureau and USAID/India, and this activity report attempts to suggest some preliminary answers to the problem of how USAID might address the health needs of the urban poor. It is the first phase of an activity that is envisioned to include three phases:

Phase I: Compilation of information about what is currently known about urban slum child health and identification of information gaps, through desktop research and interviews using three cities in three countries as examples

Phase II: In-depth assessments (field studies, advanced data analysis, or both) of child health in urban slums, leading to program design and implementation

Phase III: Advocacy and policy guidance for the ANE Bureau and guidelines for urban slum child health programming for USAID ANE missions and their partners

Purpose and Audience

This activity report is intended to catalyze the ANE urban child health initiative by providing the following:

- The information base necessary for further advocacy and program-related study of the problem of urban slum child health

- Guidelines for ANE strategic planning and health program development efforts for the urban poor

The document investigates the hypothesis that the determinants of health, as well as the corresponding burden of disease and mortality among children in marginalized areas of towns and cities, are different from those in better-served or wealthier parts of urban settlements or in rural areas. If this hypothesis is true, USAID health officers may need guidance on how to direct health improvement efforts at poor sections of cities, where a growing proportion of USAID's service population lives.

This study focuses on three cities in three countries: Cairo, Egypt; Ahmedabad, India; and Manila, the Philippines. The primary focus is on child health status and its determinants, but contextual demographic, social, and economic data are also provided, for example, the phenomenon of urbanization in each country as well as in the region and descriptions of typical living conditions and family life of the urban poor. Finally, information is provided on key national and international players and the history of programs in the urban health field. We hope that this broad picture of life and work in urban slums will permit the development of approaches for action in favor of underserved slum populations.

This activity report is directed to the following audience:

- Health, population, and nutrition (HPN) officers in USAID's ANE Bureau

- Agency policymakers

- Mission directors, mission HPN officers, and regional urban development office (RUDO) personnel

Guiding Principles and Methodology

The principles guiding the research for this activity report are as follows:

1. Focus on children under five years old.

2. Be evidence based (reliable quantitative data rather than anecdotal information) and useful for developing actions.

3. Highlight three cities in three countries representative of ANE's three subregions.

4. Identify trends in child health and urbanization over the past two decades.

5. Use case studies of successful program interventions in urban slum health.

The research team used the following approaches, techniques, and resources for collecting, storing, and analyzing information on urban slum child health:

1. Selection of a set of indicators (Phase I indicator set, Annex 1) of child health status and determinants drawn from the most professionally accepted child survival indicator sets in current use. These indicators were reviewed and refined in order to produce a set that was likely to lead to useful comparisons among urban, urban poor, and rural data.

2. Creation of an electronic center for cataloging and storage of documents, World Wide Web sites, drafts, and communications (ANE Urban Health eRoom), organized according to the report outline, selected indicators, countries, and relevant topics.

3. Desktop and library research for secondary sources of data, such as demographic and health surveys (DHSs), project reports, studies, and surveys, rather than undertaking original research.

4. Telephone and e-mail requests for references and information on current urban health programs and available studies and reports.

5. Analysis of available data to compare child health status and determinant indicators found for overall urban to urban poor and rural populations, as far as possible.

Overview of Activity Report

The activity report is organized into the following chapters:

1. "Introduction"

2. "Child Health Status and Determinants in Three Cities": a comparative analysis of mortality, morbidity, and malnutrition rates in the three selected countries and cities, and a comparative analysis among urban, urban poor, and rural manifestations of 11 determinants, such as family practices (e.g., breast-feeding, immunization, use of oral rehydration solution [ORS] for diarrhea, birth spacing), availability and accessibility of services (e.g., public, private, traditional), and environmental health conditions (e.g., water, sanitation, and air pollution)

3. "Overview of Urbanization in Asia and the Near East": trends and projections of urban growth and population density in three cities and assessment of urban poverty and size of urban poor populations within urbanization trends

4. "Description of the Urban Poor": location and living conditions of the urban poor, environmental health conditions, health service coverage, and sociocultural and economic conditions (several examples of urban programs in various countries are given in this chapter)

5. "Synthesis of Available Urban Slum Child Health Data": summary of evidence of health status and main determinants of urban child health and a description of key characteristics of the health and family situations of small children living in slums in the ANE region

6. "Players and Programs": overview of the key bi- and multilateral donor agency players in urban programs (including the UN Children's Fund [UNICEF], the World Bank, and the UN Development Program [UNDP]), main conceptual contributions and program models, and status of current urban programming

7. "Conclusions and Recommendations for Action"

Discussion of the Nature of Existing Urban Health Data

The search for data on child health specifically in slum areas requires an awareness of how data are commonly presented. For example, infant, neonatal, and under-five mortality rates in DHS data sets are presented as national averages and are also broken down as "urban" and "rural." For the Philippines, data for Metro Manila are included in the 1998 DHS for certain indicators, and much of the India 1998/99 National Family and Health Survey (NFHS) data are presented by state as well as by national average. UNICEF also presents national child health data broken down as "urban" and "rural."

When comparing urban and rural data, the health status of urban children appears relatively good; urban infant and child mortality rates are invariably lower than the national average. For example, the national infant mortality rate for Egypt is 55/1,000, whereas the urban rate is 43/1,000. The rural rate is 62/1,000. In India, the differences among national, urban, and rural mortality rates are even more pronounced. According to the 1998/99 NFHS, the national infant mortality rate (IMR) for children under five is 68/1,000; for urban children the rate is 47/1,000. The rural rate is 73/1,000.

Health programmers viewing these data conclude that the rural population is more underserved, ill, and poverty-ridden than the urban and that program resources and efforts should target the rural population rather than the urban. The assumption generally made about the urban population is that it benefits from economic opportunities, municipal health, water and sewer services, and infrastructure and thus has a higher standard of health and welfare. The data would seem to bear out these assumptions.

For understanding the health status of urban slum children, the data are misleading. "Urban" data do not disaggregate the poor from the not poor, the comfortable from

the slum dweller. Thus within the world of DHS data, a young child struggling to survive on the garbage dumps of Manila or in the City of the Dead in Cairo is considered statistically identical to the well-fed and -housed offspring of the comfortable middle class or even of the upper-class elite. Urban averages often do not even include the poor, especially the marginalized or unrecognized settlers in colonies or those without a fixed address.

UNICEF estimates that a third of all urban dwellers in the developing world live in substandard housing or are homeless and that the total number of urban poor has currently reached one billion.[1] In addition, UNICEF projects that between the years 2000 and 2025, the number of people living in urban areas in the developing world will double, from two billion to four billion. Given the rapid pace of urban growth and huge numbers of people living in slums, it is critical to try to obtain a true picture of the health status of children under five living in these slums as distinct from the general, or average, urban child population.

Such disaggregated data are hard to come by, because few researchers have investigated disparities among different segments of the urban population. Examples include 1994 disaggregated DHS urban data for Accra, Ghana, and São Paulo, Brazil, using education, income, sewage, water, and housing density to create socioenvironmental zones for comparison. The study found that under-five mortality from respiratory infections and diarrhea was four times higher in the most deprived zone than in the most privileged one.[2] An attempt to update and reanalyze the data for São Paulo in the late 1990s by using improved mortality data found that IMRs were consistently over three times greater for the poorest areas than for the wealthier districts and also that the relationship between income and mortality appears quite strong.[3]

The most recent and extensive effort at disaggregating data has been carried out by the World Bank, which developed an "asset index" to measure household wealth. Study populations were separated into wealth quintiles and also by "rural" and "urban." Health, population, and service utilization data were then compared across quintiles. The data were derived from DHS household data from 44 countries, and the analysis was carried out for all countries.[4]

A similar effort at disaggregating and comparing data was completed by EHP for the State of Gujarat, India, using four data bases: (1) the 2001 Counterpart International Knowledge, Practices, and Coverage (KPC) Survey, (2) the 1996 UNICEF Multiple

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[1] Partnerships to Create Child-Friendly Cities, UNICEF, 2001, http://www.childfriendlycities.org/.
[2] Stephens C., 1994, Collaborative Studies in Accra, Ghana and Sao Paolo, Brazil; Analysis of Urban Data of Four Demographic and Health Surveys, London School of Tropical Medicine and Hygiene (LSHTM).
[3] Hanley, Taddei et al., Infant and Youth Survival Indicators Disaggregated by District Income, Sao Paolo City, Brazil: Disciplina de Nutrição e Metabolismo, Departamento de Pediatria, Universidade Federal de São Paulo (UNIFESP/EPM). Available at http://www.brazilpednews.org.br/jun2001/bnp7ar01.htm.
[4] Gwatkin, D., et al., 2000, *Socio-Economic Differences in Health, Nutrition and Population,* HNP/Poverty Thematic Group, Washington: World Bank.

Indicator Cluster Survey (MICS) for Gujarat State, (3) the 1998/99 NFHS for Gujarat State, and (4) the 1992/93 India NFHS as disaggregated by the World Bank.

Without exception, these efforts at disaggregating household survey data by wealth and location show disparities—often large ones—between the poorer socioeconomic quintiles and the upper, wealthier ones. In urban areas, a graded effect of economic conditions on mortality, morbidity, and malnutrition is apparent through the quintile analysis. However, urban slum health data are inadequate. There is a real need for surveys to include specific data collection strategies for defined urban slum or squatter settlement populations in addition to other urban segments.

In spite of inadequacies, a search for data on neonatal mortality, under-five mortality, and maternal mortality; main causes of death; and morbidity and malnutrition for both urban slum and nonslum populations has yielded results that allow a look at the gross intracity differences and inequities in slum versus nonslum child health status. This report focuses on three cities chosen as illustrative examples of urban slum conditions in the ANE region: Ahmedabad, Cairo, and Manila. Unless otherwise noted, comparison data are taken from the most recent DHSs (NFHSs in India) for the three countries (India, 1998/99; Egypt, 2000; the Philippines, 1998). Where comparison data are not available, the slum information is presented on its own, and it generally speaks for itself. Annex 2 presents an overview of the slum and comparison data for the three cities in table form.

2 Child Health Status and Determinants in Three Cities

A central question for this activity report is, What is causing children under five years old in urban slums to get sick and die? The answer lies in what we can learn of the proportions of slum infants and children who are dying before reaching ages one and five, respectively, what the main causes of their deaths are, what proportions of slum children suffer from what illnesses, and how many are malnourished. A broader answer to the question looks at the behavioral, environmental, and socioeconomic factors that influence mortality and morbidity rates. To gain a better understanding of the "why," a set of indicators of commonly accepted key determinants of child health was selected for study:

- Family practices (both child directed and mother directed)

- Environmental health conditions (water and sanitation, indoor and outdoor air pollution)

- Availability and accessibility of health services

Information on these determinants was expected to shed some light on data found on child mortality and morbidity, provide a better understanding of what is causing poor child health status in urban slums, and indicate future program directions. The selected determinants were also likely to be represented in the larger data sets, such as DHSs, for national and all-urban populations, for eventual comparison with slum data.

This chapter presents the findings of recent studies and reports on child health in the slums of three major cities. It attempts, where feasible, to compare urban slum, urban average, and rural data to test in a general way the hypothesis that the health conditions of urban slum children in the ANE region are the same as (or perhaps worse than) those of their rural counterparts. (See box entitled "Definitions of Urban Terms," below, for a discussion of terms used to describe housing for the urban poor.)

India and Ahmedabad

India has the fastest-growing segment of urban poor on earth, with urban population believed to be doubling or even tripling from a mid-1990s figure of 250 million, thus possibly propelling the urban population to 660 million by 2025.[5] Currently there are

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[5] Barrett, A., and R. Beardmore, 2000, Poverty Reduction in India: Towards Building Successful Slum Upgrading Strategies. Discussion Paper for Urban Futures 200 Conference, Johannesburg, South

Definitions of Urban Terms

Is it a *slum,* a *tenement,* a *shantytown,* or a *squatter settlement*? The terms describing the living conditions of the urban poor are sometimes used interchangeably. However, the different types of low-income urban communities have distinguishing characteristics that are generally recognized and have been described in the classic book *In the Shadow of the City*[1]:

Slums: Old, dilapidated tenements in the city center, sometimes subdivided into small rental units.

Tenements: Purpose-built or converted large downtown buildings subdivided into rental units.

Shantytowns: Less commonly used term referring to makeshift squatter or renter settlements.

Squatter Settlements: Originally referring to illegal settlements of people "squatting" on land that is not their own, now often including new settlements where inhabitants do have legal title. Numerous other adjectives have been used to qualify the term "settlements," including "marginal," "spontaneous," "illegal." and "unauthorized."

The types of low-income communities mentioned above have common characteristics, such as population density, poverty, squalor, lack of services, and sociocultural heterogeneity. The one characteristic that truly distinguishes some poor urban communities from others is legality versus illegality of tenure or title to the land occupied. The approach of health program developers to municipal officials will depend on whether the targeted settlement is legal or illegal. If legal, the inhabitants may be eligible for services they are not receiving. If illegal, they are not eligible for water, sewer, electricity, educational, and other municipal services and infrastructure. The programming approach to city officials will require strong advocacy based on an understanding of the system of land tenure in vigor and of the positive and negative political stakes involved in recognizing illegal settlements and providing them with certain municipal services.

[1] Harpham, T., T. Lusty, and P. Vaughan, eds., 1988, *In the Shadow of the City; Community Health and the Urban Poor*, A Report of the Oxford Workshop, Oxford: Oxford University Press.

23 urban centers with over a million inhabitants each. Urban services are not keeping pace with rapid urbanization, and the poor are suffering the effects. It is estimated that 30% to 40% of the urban population lives in poverty.

Ahmedabad is India's seventh-largest city, with an estimated 1997/98 population of 3.6 million. Its population has grown at a rate of 37.6% per decade for most of the

Africa, 2000. Available on World Bank Web site:
http://wbln0018.worldbank.org/External/Urban/UrbanDev.nsf/Urban+Slums+&+
Upgrading/E32E18C4F3DED8EC85256944006A8372?OpenDocument.

past century. The city has 2,432 slum pockets, with a population of over 1.2 million.[6] These slums are characterized by crowding and poor environmental health conditions, which cause waterborne diseases, malnutrition, respiratory illnesses, and skin conditions and which produced a gastroenteritis epidemic in 1988 and a jaundice epidemic in 1993.[7] Ahmedabad was selected as a case city for this report because it is fairly typical of a large Indian city with slums and squatter settlements, urban poverty, ancient history, and modern industry. Its government is also known to be fairly progressive, and numerous slum improvement actions are currently under way. Given these factors, there seemed greater likelihood of finding information on child health in urban slums in that city than in some other locations.

Child Health Status

Infant, Neonatal, and Under-Five Mortality

- The 1998/99 NFHS[8] urban IMR for India nationwide is 47/1,000, and the rural rate is 73/1,000.

- A 1997 study[9] of slums in Ahmedabad found an IMR of 123/1,000, whereas the IMR was 76/1,000 for the city as a whole. The same researcher found an IMR of 120/1,000 in the Millatnagar slum colony (population, 20,000) of Ahmedabad.[10]

- The Ahmedabad Municipal Corporation official IMR given in 2000 for the city as a whole is a very low and possibly suspect 27/1,000.[11]

Causes of Death

- In 1996, the World Health Organization (WHO) Regional Office for South East Asia found the most frequent causes of death of three million Indian children under five to be the same ones found throughout the developing world: acute respiratory infection (ARI) (20%), diarrheal disease (28%), and measles (11%).[12]

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[6] Counterpart International, January 2001, *Report on the Baseline Knowledge, Practice, Coverage Survey, Jeevan Daan Child Survival Program, Ahmedabad, India,* India: Sanchetana, Counterpart International, Ahmedabad Municipal Corporation.

[7] Satterthwaite, David, and Fiona Nunan, November 2000, Governance for Environmental Improvements: A Comparative Analysis of the City Case Studies, Urban Governance, Partnership and Poverty Theme Paper 21, University of Birmingham, United Kingdom, for the Department for International Development (DFID). Available at http://www.bham.ac.uk/IDD/activities/urban/case_studies/21.pdf.

[8] International Institute for Population Sciences and ORC Macro, 2000, *National Family Health Survey (NFHS-2), 1998–99:India,* Mumbai: International Institute for Population Sciences.

[9] Dr. Hanif Lakdawala, 1997, quoted in Counterpart International 2001.

[10] Lakdawala, Hanif, "Seminar on Communalism," 1999, Media House, http://www.islamicvoice.com.

[11] Ahmedabad Municipal Corporation, 2001, Ahmedabad Population 1981–2001, http://www.ahmedabadcity.org/population.html.

[12] WHO Regional Office for South-East Asia, India Country Health Profile, June 2001, http://w3.whosea.org/cntryhealth/india/index.htm.

- A 2001 baseline KPC Survey[13] found similar causes of death and proportions: "Causes of under-five mortality in the urban slums of Ahmedabad are poor neonatal care, diarrhea and pneumonia. In these slums, pneumonia and diarrhea account for 30% and 28% of child deaths respectively. Vaccine-preventable diseases are also important causes of childhood mortality."

Maternal Mortality

- The 2000 NFHS maternal mortality ratio (MMR) for all India was 540 per 100,000 live births, in contrast to 276 per 100,000 live births for all urban women. The government of Gujarat estimates the MMR for the city of Ahmedabad to be 319 per 100,000 live births.[14] MMRs specific to slums in India have not been located.

Morbidity

- NFHS morbidity data for children under 35 months in the two weeks preceding the survey show that diarrheal disease affected 20% of urban children and 19% of those in rural areas. ARI affected 16% of urban children and 20% of rural children. Gujarat State NFHS data show that 20% of children had diarrhea in the previous two weeks.

- In the Counterpart International survey, 22% of mothers in Ahmedabad slums reported that their children had ARI symptoms in the preceding two weeks, and 37% of children had diarrhea in the same period.

- Data on vaccine-preventable illnesses, HIV/AIDS, tuberculosis (TB), accidents, malaria, and dengue for under-fives were not found.

Malnutrition

- The NFHS found 47% of all Indian children under three to be underweight, using weight-for-age measurements. Fifty percent of rural children under three and 38% of urban children under three showed signs of malnutrition, meaning that even without disaggregating the data by slum and nonslum, one-third of all urban children in India were malnourished.

- The Counterpart International survey found that rates for moderate and severe wasting in slum children in Ahmedabad of 21% were notably higher than the NFHS Gujarat State rate of 16%.

- Disaggregated data from the 1996 UNICEF Gujarat statewide MICS showed malnutrition in children under five in urban slums to be a serious problem, especially for the 12-to-23-month age range. Two-thirds of these children were

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[13] Counterpart International 2001.
[14] Counterpart International 2001.

malnourished, and over half of children in the other age ranges above 6 months were also. In contrast, 28% and 41% of children in the lowest two socioeconomic quintiles of rural Gujarat State were malnourished.

- Specific micronutrient deficiency rates for slum populations were not found, but the Opportunities for Micronutrient Interventions Project (OMNI) reports that xerophthalmia resulting from vitamin A deficiency affects between 5% and 7% of preschool children (seven million to nine million!) and causes an estimated 60,000 children to go blind in India each year.[15]

- Iodine deficiency is a serious problem nationwide. The OMNI Fact Sheet on India notes that iodine deficiency disorder causes an estimated 90,000 stillbirths and neonatal deaths each year.

- According to latest NFHS figures, anemia among children age 6 to 35 months is uniformly high: 74% for all India, 74.5% for Gujarat State, 71% among urban children, and 75% among rural children. Slum children will undoubtedly have high anemia rates.

- Iron deficiency anemia among pregnant women is estimated by OMNI at 70%, and as high as 90% among preschool children when hookworm infection is present. Data specific to slum dwellers were not found, but it is safe to assume that young children in slums where sanitation is a serious problem are likely to have high intestinal parasite infection rates.

Child Health Determinants

Family Practice Indicators

Information on family practices that are known to be determinants of child health is available for the slums of Ahmedabad through the 2001 Counterpart International KPC Survey and highlighted below:

- *Breast-feeding:* Forty-one percent of slum children are exclusively breast-fed for the first three to five months. This is lower than the national DHS average of 55% and the rate of 65% for Gujarat State. Twenty-three percent of slum children age 6 to 23 months had received no solid food the previous day. Grains rather than a variety of foods were the predominant complementary food.

- *Vitamin A supplementation:* Eleven percent of mothers of children 12 to 23 months of age reported that their child had received a vitamin A supplement. The figure for vitamin A supplementation coverage for all India is between 25% (UNICEF) and 30% (DHS).

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[15] MOST, the USAID Micronutrient Program, n.d., OMNI Micronutrient Fact Sheets: India, http://www.mostproject.org/India.htm.

- *Immunization rates:* Fifteen percent of all children age 12 to 23 months in the slum study were found to have proof of full immunization, whereas the DHS Gujarat State data showed 53% of children fully immunized. Thirty-seven percent of slum children received measles immunization—a percentage lower than the DHS rates for rural children (45%) and urban children (69%) of same ages. Twenty-one percent had received polio immunization—a percentage higher than the DHS rate for rural children (10%) but close to the DHS rate for urban children (23%).

- *Treatment of diarrhea*: Only 18% of children with diarrhea in the slum study were given oral rehydration therapy (ORT)—a much lower figure than DHS rates for Gujarat State (42%) and for children in rural areas (35%) and urban areas (33%). However, care-seeking from health providers was relatively good for episodes of diarrhea: 61% from a qualified provider. This is close to the DHS rate for rural diarrheal disease care-seeking (60%). The DHS urban rate is 75%. Care-seeking for symptoms of ARI was equally high in the slum study population: 86% of mothers. The DHS rates of mothers seeking care for ARI were 75% for urban areas, and 61% for rural areas.

- *Malaria prevention:* Two percent of children in the slum study had slept under an insecticide-treated bednet the previous night, whereas 23% of mothers claimed to have a bednet in the house. No comparison data were found.

- *Hygiene practices:* Diarrhea-preventive hygiene practices were found to be low in the slum area: Only 9% of mothers stated that they washed their hands before food preparation, before eating, before feeding children, and after defecation. Twenty-two percent had soap, water, and a place for handwashing in their homes.

- *Antenatal care:* Thirty-four percent of mothers in the slum study claimed to have received two doses of tetanus toxoid vaccine, and 46% claimed to have received more than two doses. These rates were lower by about half than the DHS rates for two or more tetanus toxoid doses: urban women, 82%, rural women, 62.5%.

The Counterpart International KPC Survey contains no additional information on antenatal care or on birth spacing and safe delivery, and no other sources of data for Ahmedabad slums were found.

The 1996 UNICEF statewide MICS[16] is one of the rare surveys that collected data specifically on urban slums and compared them with rural data. Data for the MICS were collected in the slums of six municipal corporations (urban areas) and in rural areas of Gujarat State, where Ahmedabad is located. Its findings on key family practices include the following:

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[16] UNICEF, 1996, Gujarat State-Wide Multiple Indicator Cluster Surveys (MICSs), Publication site unknown: UNICEF.

- *Immunization rates:* Coverage for child immunization and micronutrient supplementation services was uniformly higher in rural areas than in urban slums. The proportion of rural children receiving all immunizations (59%) was nearly double the urban slum rate (30.7%).

- *Vitamin A supplementation*: The percentage of rural children receiving vitamin A supplementation was nearly double that for children in urban slums (49% versus 28%).

- *Treatment of diarrhea:* For treating children with diarrhea, ORT rates were similar in both urban slum and rural areas. Continued feeding during diarrhea was somewhat higher in urban slums, but the low ORS use rate in urban slums (15.6%) was less than half the rate found in rural areas (34.5%).

- *Care-seeking:* Nearly all children—urban and rural—were taken to care providers for danger signs of diarrhea. However, 82% were taken to private doctors in urban slums, whereas 67% were taken to private doctors in rural areas. There was a clear preference for private doctors over government doctors in both rural and urban areas, but this was more pronounced in urban slums.

- *Birth spacing:* Levels of use of family-planning methods were comparably low in both rural and urban slums settings: 26% and 23%, respectively.

- *Antenatal care:* Coverage rates for maternal and child health services for pregnant women (antenatal visits, iron–folic acid supplements, and tetanus toxoid vaccine) were similar for both areas as well, and quite high.

- *Safe delivery:* Fewer births in urban slums (50%) were attended by a trained professional than were births in rural areas (65%), whereas home births were roughly similar in both areas (55% and 60%, respectively).

Environmental Health Indicators

Water supply and sanitation: According to a "quick slum survey" carried out in two slum neighborhoods prior to work undertaken in the Ahmedabad Parivartan Slum Improvement Program, water was supplied at public standpipes, two for each slum.[17] One neighborhood comprised 42 households; the other, 105 households. In the larger slum each standpipe served between 262 and 420 persons. Sanitation was minimal: "Residents resort to the nearby railroad track to meet their needs" in one slum. In the other, "there is a public latrine block, . . . but this is inadequate for the population, rarely cleaned and consequently, unusable."

A more detailed profile of the water and sanitation situation emerges from a U.K. Department for International Development (DFID) environmental case study of

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[17] UNDP-World Bank Water and Sanitation Program—South Asia and Ahmedabad Municipal Corporation Slum Networking Project, n.d., Quick Slum Survey July 1997 in Ahmedabad Parivartan.

cities that includes Ahmedabad:[18] In 1991, 26% of urban households were in areas deemed slums. Of these slum households, only 23% had piped water connections, and only 26% had individual household sanitation. Most slum households obtained water from shared standpipes and suffered erratic water supply. Sixteen percent had no water source at all. In contrast, 87% of nonslum urban households had individual water connections, and 73% had individual toilets. The case study mentions a 1998 survey of 7,512 slum households that found 80% without a water connection and 93% without toilet facilities of their own. Shared toilets were also rare, and an estimated 500,000 people out of a population of 3.6 million defecated in the open.

The Gujarat State MICS found that in urban slums, 52% of the population defecated in the open, whereas in rural areas the rate was 70%. In this case, lower rates do not mean better rates. Densely populated urban slums mean high numbers of people exposed to a contaminated environment and at risk for fecal-oral communicable diseases. Small children are especially vulnerable.

Drainage presents a problem, because few slums are hooked up to the city sewer system, and in the peripheral areas, there are no drains. Hygienic disposal of sewage and wastewater is impossible, and storm water causes flooding in the rainy season.

Air pollution: Ahmedabad is considered India's most polluted city. The concentration of total suspended particulates is nearly twice the recommended maximum levels, and other common air pollutants are well above WHO standards.[19] In addition to ever-increasing numbers of vehicles, a main cause for this unacceptable level of air pollution is the presence of industries within the city limits and the city's weak Pollution Control Board.

Indoor air pollution is a serious problem in Ahmedabad, contributing to respiratory disease. A 1995 study found that 41% of the city's households use wood, cow dung, charcoal, or kerosene for cooking, often with no ventilation.[20] These households were among the poorest, and already-malnourished women and children suffered severe respiratory problems as a consequence of indoor air pollution. Surveys of slum households found women, as well as girls who sit with their mothers while cooking, to be afflicted with coughs and lung problems. An environmental risk assessment carried out in Ahmedabad in 1995 gave indoor air pollution, pollution from vehicles, and suspended particulate matter the highest risk rating of all risk factors studied. Of the total population, 90% was at risk for ill health from ambient air pollution, and 41% of poor households using biomass cooking fuels were at risk for health consequences, especially respiratory infections, from indoor air pollution.[21]

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[18] Satterthwaite and Nunan 2000.

[19] Ibid.

[20] Ibid.

[21] Centre for Environmental Planning and Technology, 1995, "Comparative Environmental Risk Assessment of Ahmedabad, India," EHP Report for the File No. 283, Arlington, Va.: Environmental Health Project.

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Health Facilities Indicators

Availability and accessibility: Health services are the responsibility of the Ahmedabad Municipal Corporation, which runs family welfare centers, municipal health treatment centers (where slum dwellers prefer to go), and referral hospitals, as well as Anganwadi Centers for maternal and child health services.[22] All services are accessible to slum dwellers, and some services (e.g., Integrated Child Development Scheme) are concentrated in slum areas. A number of private practitioners also work in the slum areas of Ahmedabad. Fifty-two private practitioners were identified in the program area of one child health project covering six urban slums with a population of 183,000.[23]

Costs and preferences: A study of the health care preferences and expenditures of 100 Ahmedabad slum dwellers found that although nearly all respondents had gone to municipal health services at least once, 77% preferred to see a private practitioner for common diseases (colds, cough). The reason given was nearby location and shorter waiting time. Public providers were used for immunization, maternal and child health services, and treatment of major illnesses. Public health facility fees are low, and this is attractive to many, but credit is sometimes available from private practitioners.[24]

Conclusions for Ahmedabad

Ahmedabad's slums are benefiting from increasing attention by local and international agencies. Data on child health conditions are more abundant than for the other locations surveyed.

A small child in Ahmedabad's urban slums faces serious health risks, as IMRs almost twice as high as the national *rural* average would indicate. Slum children under five suffer more and die more often from diarrhea and ARI than do rural children. Slum children are more nutritionally wasted than all children in Gujarat State.

Nearly all available data on the determinants of child health suggest the following reasons for this poor health status and the generally worse conditions for small children in slums compared with their rural counterparts:

- Slum immunization rates are half those of rural children, and slum children experiencing diarrhea receive ORT half as frequently as rural children.

- Measles immunization is closer to rural rates, but it is still very low. Measles is particularly dangerous in crowded urban settings.

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[22] Counterpart International 2001.
[23] Ibid.
[24] Lakdawala, H., K. Thaker, and S. Surendras, April 1999, *Ailing Medical System: Understanding the Medical System of Ahmedabad Municipal Corporation through the Perception of Receivers and Providers,* Ahmedabad, India: Sanchetana Community Health and Research Centre.

- The mothers of slum children receive less antenatal care and preventive immunizations than rural women.

- Lack of clean water supply and sanitation are critical problems for slum dwellers in Ahmedabad, creating an unhygienic, fecally contaminated environment.

- The severely polluted air of the city of Ahmedabad and the use of cooking fuels inside crowded, unventilated dwellings explain the high prevalence of ARI.

One area where slum children appear to have an advantage over their rural counterparts is in the availability of health practitioners, and their families take them to see a doctor for signs of illness more often than rural families do. This is a finding with many possible explanations and limitations and requires further investigation.

Data for HIV/AIDS, TB, malaria, and accidents for children under five in Ahmedabad's slums were not found.

The Philippines and Manila

The Philippines is one of the fastest urbanizing countries in the world. Its 1999 *urban* population was estimated at 38.6 million and is expected to increase by 61% by 2010. This growth is mainly occurring in informal squatter areas. In 2000, the population of Metro Manila, a megacity comprising 17 cities and municipalities, was 10.5 million. An estimated 35% of the urban population lives in slums lacking basic services.[25]

The World Bank states that conditions in Manila's urban slums are worse than in the poorest rural areas of the country. The urban poor are mainly squatters who live in cramped, flimsy, one-room shelters in unhealthy environments.[26] In Metro Manila, 11% of informal settlers live along waterways or other dangerous areas, such as railroad tracks and dump sites.[27]

There are a fair number of anecdotal descriptions of the living conditions of urban squatters in Manila, but recent studies of the urban poor are hard to come by. No studies containing data on family practices that are determinants of child health were found. Older studies describe a situation that was dire then and that probably has not improved in the intervening years.

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[25] World Bank, Philippines Urban Development and Water Sector Development, World Bank East Asia and Pacific Sector Notes, http://wbln0018.worldbank.org/External/Urban/UrbanDev.nsf/East+Asia+&+Pacific/FAD6E684A55F445E85256934000EF1BB?OpenDocument.

[26] Soco, Andrea, Manila's Poor, n.d., http://www.codewan.com.ph/balay/updates/topstories/updates_manila_0721.htm.

[27] Manila Newsfeatures and Commentaries, n.d., 44,437 families residing in metro danger areas, http://www.codewan.com.ph/balay/numbers/danger_0906.htm (uniform resource locator [URL] incorrect as of May 2002).

Child Health Status

Infant, Neonatal, and Under-Five Mortality

- The DHS IMR for all the Philippines is 36/1,000; for Metro Manila the rate is 24/1,000. A Philippines Department of Health study from 1993 found the IMR to be three times higher in the slums of Manila than in the rest of the city (thus, about 72/1,000).

- The DHS mortality rate for children under five is 55/1,000 nationally, with an urban rate of 46/1,000 and a rural rate of 62.5/1,000. No slum comparison rates were found.

Causes of Death

- No data on causes of death for children in urban slums were found.

Maternal Mortality

- The MMR for the country is 172 per 100,000 live births. No data on MMR for urban or urban slum areas were found.

Morbidity

- Causes of illness in children under three nationwide during the two weeks preceding the 1998 DHS survey were diarrhea (7%) and ARI (13%). No comparison slum data were found.

- The Mega-Cities Project states that rates of TB are nine times higher in the slums of Manila than in nonslum areas, without specifying an age group.[28] Incidence of diarrhea (in adults and children) in these same slums is twice as high as in wealthier sections.[29]

- A recent news item reports that the highest number of dengue cases comes from the most depressed areas of Quezon City (Metro Manila), including 138 children between January and July 2001. The city government's health department head attributes this to the lack of sanitation among slum dwellers.[30]

- No data on vaccine-preventable illnesses, HIV/AIDS, accidents, and malaria for slum children under five were found.

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[28] Mega-Cities Project City Profiles, 2001, http://www.megacities.org/network/manila.asp (URL incorrect as of May 2002).

[29] World Resources Institute, UN Environment Program, UNDP, World Bank, 1996, *World Resources: A Guide to the Global Environment. The Urban Environment,* New York, Oxford, U.K.: Oxford University Press.

[30] Philippines Department of Health Web site: http://www.doh.gov/ph/news/august102001.htm (URL incorrect as of May 2002).

Malnutrition

- UNICEF figures show that 28% of all children nationwide are underweight.[31]

- The Mega-Cities Project states that three times as many children suffer from malnutrition in slums as in nonslums.[32]

- A study of Smoky Mountain (a Manila garbage dump) scavenger children aged 8 months to 15 years found that 80% had at least two species of intestinal parasite; 20% had *Giardia,* and 32% had *Escherichia coli.*[33]

- Vitamin A deficiency has declined nationally, but subclinical levels persist in 35% of preschool children. It is endemic in disadvantaged areas of urban Manila, where xerophthalmia affects 1.5% to 3% of children.

- Anemia is reported in 43% to 49% of older infants and pregnant women. A 1987 food and nutrition survey found that 50% of small children in Metro Manila's squatter areas were anemic.[34]

- The national goiter rate is 15%, with large regional variations.[35] Data on urban slums were not found.

- Only anecdotal evidence of malnutrition in urban slum children was found. For example, a recent health news digest on the Philippines Department of Health Web site includes a report from the social welfare secretary on the increase of severely malnourished children as a result of worsening poverty in Metro Manila.[36]

Child Health Determinants

Environmental Health Indicators

Water supply and sanitation: A 1986 UNICEF study[37] found that only 16% of low-income households have water connections. Others rely on artesian, open wells and

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[31] UNICEF, Philippines Country Statistics, February 2002, http://www.unicef.org/statis/Country_1Page138.html.

[32] Mega-Cities Project, 2001, City Profiles, http://www.megacities.org/network/manila.asp (URL incorrect as of May 2002).

[33] Auer 1989 in Bradley, Stephens, Harpham, and Cairncross, 1992, *A Review of Environmental Health Impacts in Developing Country Cities,* Washington, D.C.: World Bank, Urban Management Program.

[34] Asian Development Bank and Economic Development Institute, 1991, *The Urban Poor and Basic Infrastructure, A Regional Seminar*, vols. I, II, and III, Manila, Philippines.

[35] MOST, the USAID Micronutrient Program, n.d., OMNI Micronutrient Fact Sheet: Philippines, http://www.mostproject.org/Philpns.htm.

[36] Philippines Department of Health Web site, August 13, 2001, "Health News," http://www.doh.gov/ph/news/august132001.htm.

[37] Cited in Asian Development Bank and Economic Development Institute, 1991, *The Urban Poor and Basic Infrastructure Services in Asia and the Pacific, A Regional Seminar,* p. 718.

public taps. The urban poor have no public toilets and resort to open pits, which pose a serious threat of fecal contamination in overcrowded squatter settlements.

A compilation of studies on the urban poor of Metro Manila for a pro-poor advocacy Web site[38] states that water services are generally not available for the urban poor. People either buy water or obtain it from privately owned faucets. In addition, 66% of Metro Manila's urban poor have no toilets and resort to the river, open pits, or the "wrap and throw" method of human waste disposal.

The Mega-Cities Project claims that 50% of the metropolitan area is directly served by piped water and that the 35% living outside the distribution area must buy water from vendors or rely on groundwater.[39] Compounding the water supply problem, the El Niño phenomenon has created a water shortage crisis.

As an example of discrepancies in urban data that are not disaggregated by slum and nonslum or by other economic indices, UNICEF country statistics show 92% of total urban population covered by potable water supply and the same percentage with adequate sanitation.

Air pollution: In an overview of Manila, the Mega-Cities Project[40] states that air pollution is a major environmental problem. Emissions from the city's 800,000 cars account for 60% of total air pollution, oil-fired power plants account for another 30%, and industrial plants account for 10%.

An Asian Development Bank on-line report on the health and nutritional status of children in the region states that prior to a mandated ban on leaded gas in Metro Manila, the average child was at risk of developing with nearly five intelligence quotient points less than children raised in a lead-free environment.[41]

Health Facilities Indicators

A 1999 survey of 106 families from urban poor communities in Metro Manila found that all the respondents had access to schools, health centers, and markets.

Conclusions for Manila

The overall picture of child health status in the squatter settlements of Metro Manila appears alarming, although no study was found that directly addressed under-fives in slums. An oft-quoted finding of the Philippines Department of Health is that IMRs in Manila's slums are triple those of nonslum areas. There is also evidence of a high

[38]Fact Sheet on the Quality of Life of Urban Poor Communities, n.d., http://www.codewan.com.ph/balay/numbers/fs_life.htm (URL incorrect as of May 2002).
[39] Mega-Cities Project 2001, City Profile, http://www.megacities.org/network/manila.asp (URL incorrect as of May 2002).
[40] Ibid.
[41] Asian Development Bank, n.d., Status of Children in the Region, http://www.adb.org/Documents/Reports/Children/child03.asp.

incidence of TB, diarrheal disease, parasitic infections, dengue, and severe malnutrition affecting slum children.

The crowded and dangerous conditions of the slums, the serious water supply problem and lack of proper sanitation, severe air pollution, and effects of the Asian economic crisis would all begin to explain the poor health status of small children. However, empirical evidence from studies of determinants of child health in urban slums, especially family practices, was not found. Like the residents of Ahmedabad's slums, Manila slum dwellers have access to health facilities and other institutions, which can be viewed as a positive among many negatives but is a situation requiring further investigation.

Egypt and Cairo

Egypt, like the Philippines and India, has experienced rapid urbanization in recent decades, due in large part to rural-urban migration until the 1973 war, and thereafter mostly due to natural increase of the urban population.[42] Urban poverty has increased faster than rural poverty. The Greater Cairo region and Alexandria have 3.3 million poor people and over 1 million ultrapoor who are excluded from a range of social and municipal services. The poor are concentrated in overcrowded and underserved squatter settlements.[43]

According to the l986 population census data, around 50% of the total population of Cairo lived in eight poor neighborhoods. Many of the shantytowns or "random housing areas" (informal squatter or slum settlements with a mix of tenured and nontenured residents) within and around Cairo were created in the last decade. The inhabitants are among the poorest of the poor in Greater Cairo.[44] The results of sociological and other urban studies are extremely hard to access, because data are frequently not made public and funding for such studies is very limited.[45]

The 1997 UNICEF MICS sampled random housing areas in addition to disaggregating data by "urban" and "rural." The proximity of the random housing areas to municipal services and the presence of well-off (legal) residents produced results that were, for the most part, similar to all-urban figures but that nonetheless provide a glimpse into urban poor–urban nonpoor disparities.[46]

A decadal study of an unauthorized urban settlement in the heart of Cairo called Manshiet Nasser[47] is a rare source of child health information. By the late 1990s, over

[42] Tekce, B., L. Oldham, and F. Shorter, 1994, *A Place to Live: Families and Child Health in a Cairo Neighborhood,* Cairo: American University of Cairo Press.

[43] Ford Foundation, 1998, Egypt Poverty Report 1998, http://www.fordfound.org/global/cairo/features_part1.cfm.

[44] UNDP, *Egypt Human Development Report 1998/99.* Cairo: UNDP/Egypt.

[45] Assaad, Ragui, and Malak Rouchdy, 1998, *Poverty Report on Egypt,* Cairo: Ford Foundation.

[46] UNICEF, 1997, Egypt MICS.

[47] Tekce et al., op. cit.

500,000 people resided there. Data in this study are from the late 1980s and mid-1990s.

Child Health Status

Infant, Neonatal, and Under-Five Mortality

- The DHS IMR for all Egypt is 55/1,000, broken down into an urban rate of 43/1,000 and a rural rate of 62/1,000.

- The DHS mortality rate for children under five is 69/1,000, with an urban rate of 53/1,000 and a rural rate of 79/1,000.

- The 1997/98 UNDP Human Development Report gives an under-five mortality rate of 31/1,000 for all Cairo; it is unclear why this figure differs so much from the DHS urban figure.

- No comparative figures for slums were found.

Maternal Mortality

- The national MMR is 174 per 100,000 live births, whereas the rate for Cairo is 200.[48]

- Data on maternal mortality for urban slums were not found.

Morbidity

- DHS morbidity data show that 9.5% of all children suffered from ARI (8% of urban children and 11% of rural children), and 7% suffered from diarrheal disease (6.1% of urban children and 7.8% of rural children) in the two weeks preceding the survey.

- The Manshiet Nasser survey of the mid-1990s found that 69% of children had had some form of infectious disease, 49% had had a respiratory illness, 42% had had diarrhea, and 22% had had both in the preceding two weeks. These rates are extremely high compared with national DHS data from 2000 noted above.

Malnutrition

- UNICEF data showed that 12% of all children were moderately to severely underweight, and DHS data showed that 4% were malnourished (3% of urban children and 5% of rural children), using weight-for-age measurements.

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[48] Institute of National Planning, *1998. Egypt Human Development Report 1997/98,* Cairo: Institute of National Planning, UNDP.

- Mild anemia affects 18.5 % of all children six months to five years old; 15% of urban children, and 21% of rural children are affected (DHS). One study found anemia in 31% of preschoolers and in 34% of schoolchildren. Prevalence of *Ascaris* and other parasites was high (25% to 30%), but place of residence was not clear.[49]

- In the squatter settlement of Manshiet Nasser, the poor nutritional status of children is illustrated by the finding that children at nine months of age were at the 25th percentile of the healthy population and remained undernourished for the second and third years of life. The 2000 Egypt DHS found that 8% to 9% of children in Cairo as a whole were undernourished, whereas 18% in a same-age group were undernourished in the squatter settlement.

- The prevalence of malnutrition in children in squatter settlements was lower in boys than in girls. Over twice as many girls (15%) as boys (6.4%) were underweight.[50]

- Nearly ubiquitous intestinal parasitic infection (90%) was found in two-year-olds in the Cairo squatter settlement, and 21% of these infected children were hosts to three or more species. This is a strong indication of poor environmental conditions and hygiene behaviors.

Child Health Determinants

Family Practice Indicators

The bulk of information related to selected health determinant indicators comes from the study of Manshiet Nasser.[51] This unauthorized settlement in Cairo, created in the 1960s, housed 64,000 residents in 1984, with a growing population density of 40,000 per square kilometer—dense, but not as dense as the teeming urban slums of South Asia. By the late 1990s, over 500,000 people resided in the settlement. The anthropological and epidemiological study conducted there in the mid-1990s yields some information on determinants of child health:

Care-seeking:

- In the two weeks preceding the survey, 55% of mothers had sought professional help for diarrhea, and 65% had sought help when more clinical signs were present. These rates are as good or better than the DHS rate of 52% for all urban areas.

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[49] MOST, the USAID Micronutrient Program, n.d., OMNI Micronutrient Fact Sheets: Egypt, http://www.mostproject.org/Egypt.htm.
[50] UNICEF, 1997, Egypt MICS.
[51] Ibid.

- In the two weeks preceding the survey, 53% of mothers took their ill children for professional treatment for signs of ARI—a lower rate than the 77% the DHS found for all urban dwellers.

Diarrheal disease, treatment, and breast-feeding:

- Attack rates for diarrheal disease during the first year of life were lowest for wholly breast-fed children (42%), higher when they were given other foods besides breastmilk (54%), and higher yet when receiving no breast milk (69%). Where breast-feeding was never initiated, the diarrhea attack rate was highest, at 73%. Successful breast-feeding is associated with giving birth with the help of a *daya* (a traditional birth attendant) rather than in a hospital or maternity clinic.

- Children living in homes or buildings with both water and sewer connections experienced diarrheal attack rates 22% lower than children in households without facilities.

- The DHS found that 38% of urban children were given ORS or home fluids for diarrhea. In Manshiet Nasser, many mothers were aware of the recommendations for ORT for diarrheal disease, but regarded it as one of several options, and a labor-intensive one at that.

- The mean duration of breast-feeding was between 16 and 17 months. The average age for receiving supplemental foods was 10 months. At 6 months, 52% were still receiving only milk.

- Regarding infants no longer being breast-fed, households with adequate home sanitation were able to achieve 26% better standardized weight for them than households without facilities. Households with and without facilities achieved the same nutrition results while infants were being breast-fed.

Hygiene practices:

- Only 12% of households had soap near the toilet. Households with both water and sewer connections were 3.4 times as likely to have soap available in or near the toilet. This finding shows that infrastructure promotes health by facilitating good hygiene practices.

Safe delivery:

- Sixty-three percent of births were attended by dayas, and 80% of births occurred at home. Medical monitoring of pregnancy and birth was nearly nonexistent and was not considered necessary by most women. In comparison, 2000 DHS data show that for all Egypt, 52% of deliveries are at home. In all urban areas, 30% are at home, and in rural areas, 65% are at home, making the urban settlements' proportions much higher. DHS data also show that in all urban areas of Egypt, 17% of births are attended by a daya, whereas in rural areas the proportion is

47%. Again, proportions for Manshiet Nasser are much higher, although the data are separated by a decade.

Antenatal care:

- The UNICEF MICS found tetanus toxoid vaccine coverage very low in Cairo (36% of pregnant women) compared with the rate for urban areas in general (44%). Interestingly, the coverage rate for random housing areas was slightly higher (49%).

Environmental Health Indicators

Water supply and sanitation: The 1997 UNICEF MICS found that only 83% of households in unauthorized settlements have access to piped water in their homes, whereas access was nearly universal in Cairo as a whole. Access to some means of sanitary disposal of excreta is available to 99% of the Greater Cairo population, with access falling to 95% for unauthorized settlements. The percentage of households with access to a public sewage network within 100 meters of the residence is 92% for Greater Cairo, but only 68% for unauthorized settlements. According to the Mega-Cities Project, sewer connections are available to 70.9% of the population of Cairo.[52]

In the settlement of Manshiet Nasser, obtaining water for household consumption is a time-consuming occupation of women and girls. In the 1980s, water was collected from standpipes or private taps and sometimes delivered to homes by entrepreneurs using donkey carts. Sanitation was in the form of pits dug into rock beside dwellings and sludge emptied occasionally by laborers. Urban upgrading projects in the 1990s have brought a coordinated water and sewer system, but actual coverage is unclear.

Air pollution: The Mega-Cities Project calls Cairo's air pollution among the worst in the world: 2.1% of all deaths can be attributed to it. Its air lead levels are among the highest in the world, and studies have shown that children growing up in Cairo are in danger of losing an average 4.25 intelligence quotient points as a result of lead pollution.[53]

Health Facilities Indicators

According to UNDP, there were 4.9 health units per 100,000 persons in Cairo in 1998.[54] Access to the health care system is limited for the poor. Public expenditure on health was low, at 1.5% of total public expenditures, in 1996, whereas private spending on health was substantial, with private voluntary organizations and Islamic health centers expanding in urban areas to respond to gaps in public coverage. Poor illiterate women are the group the most affected by the low coverage in public health

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[52] Mega-Cities Project, 2001, City Profiles, http://www.megacities.org/network/cairo.asp (URL incorrect as of May 2002).
[53] USAID ANE Bureau, n.d., Protecting Egypt's Environment, http://www.usaid.gov/regions/ane/newpages/perspectives/egypt/egenv.htm.
[54] Institute of National Planning, UNDP, 1997/98, Egypt Human Development Report.

facilities. Nonetheless, the public sector is the largest provider of health care to urban poor.[55]

Conclusions for Cairo

Cairo's available data related to urban poor child health is difficult to come by. Nearly three-quarters of all children under five in a Cairo squatter settlement suffered from an infectious disease during the preceding two week period; one-quarter of these had had both diarrhea and ARI. The proportion of children under five who are undernourished in a Cairo squatter settlement is double the proportion for all of Cairo, and nearly all two-year-olds have intestinal parasites.

All indications are that the determinants of child health in unauthorized urban settlements are poor. The unacceptable ambient air pollution adds another debilitating factor to the mix. However, in contrast to the cities of Asia, the population of Cairo in its entirety appears to have reasonable access to water and sewer connections, although this should be verified for the most marginalized of settlements. Gender issues affect poverty levels, by limiting employment opportunities for female heads of households and access to health facilities among the poorest of women. These issues require further investigation.

Evidence from Other Cities and Countries

Worldwide, statistics on the health status of slum children are few. Reasons include the following:

- No disaggregation of urban data by socioeconomic criteria and location

- Lack of agreement on what constitutes a slum or where slums are located

- Lack of official recognition of the existence of slum settlements

- Lack of publication, promotion, and centralized information sources on reports or surveys carried out by smaller nongovernmental organizations (NGOs).

A review of a handful of studies conducted over the past two decades on health conditions in urban slums gives an indication of the dire conditions that seem to be commonly found:

- A cross-sectional survey of 208 households in an inner-city slum in Bangladesh found that the prevalence of diarrhea in children under five was 25 per 100 child days.[56]

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[55] Assaad, Ragui, and Malak Rouchdy, 1998, *Poverty Report on Egypt,* Cairo: Ford Foundation.
[56] Pryer 1989, 1990, quoted in Tolba and El-Kholy, eds., *The World Environment 1972–1992*, Nairobi: United Nations Environment Programme.

- A study of urban slums in Bangkok showed that malnutrition was far worse in at least one sample than in rural communities chosen for comparison.[57]

- A study of Pôrto Alegre, Brazil, showed IMRs much higher in a poor shantytown than in the more affluent sections of town.[58]

- Several studies have been carried out by the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B), in the slums of Dhaka, Bangladesh:

  - Wahed et al. assessed biochemical evidence of vitamin A deficiency in 225 children under five and found a high prevalence of deficiency.[59]

  - Kiess compared the nutritional situations among preschool children living in rural, urban, and urban slum areas of Dhaka and found that children living in slums were at equal or greater risk of poor health and malnutrition than their counterparts in rural and nonslum urban areas. Diarrhea, economic vulnerability, and slum habitat were significantly associated with an increased risk of being underweight.[60]

- Studies that systematically compare urban, urban slums, and rural populations—such as the one by Kiess cited above—are relatively rare. A 1991 Bangladesh study disaggregated and reanalyzed data on infant mortality. The results show a much higher IMR for the urban poor than for urban average and rural populations (142/1,000 versus 68/1,000 and 93/1,000, respectively), suggesting that health conditions for the urban poor are far worse than for their rural counterparts.[61]

- A summary of literature on morbidity among vulnerable groups in urban areas of developing countries[62] cites the following studies of relevance to the concerns of this report:

  - *New Delhi, India, slums:* Incidence of diarrhea in children averaged 8 episodes per year. The highest incidence (12 episodes per year) occurred in slums with the poorest sanitary conditions.[63]

  - *Kuala Lumpur, Malaysia, slums:* A survey of 1,572 slum children found 63% *Trichuris,* 50% *Ascaris,* 5% hookworm infection.[64]

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[57] Wray 1985, quoted in Tolba and El-Kholy, op. cit.
[58] Guimaraes and Fischman 1985, quoted in Tolba and El-Kholy, op. cit.
[59] Wahed, M.A., et al., n.d., Micronutrients Bibliography, Dhaka: ICDDR,B, http://www.icddrb.org/micronutrients.html.
[60] Kiess, Lynda, 1996, Comparison of Nutritional Status among Pre-School Children Living in Rural, Slum and Urban Dhaka. Dhaka: ICDDR,B.
[61] UNICEF Bangladesh 1993, quoted in M. Black, 1994, *Mega-Slums: The Coming Sanitary Crisis,* United Kingdom: WaterAid.
[62] Bradley, Stephens, Harpham, and Cairncross, 1992, *A Review of Environmental Health Impacts in Developing Country Cities,* Washington, D.C.: World Bank, Urban Management Program.
[63] Bhatnagar and Dosaij 1986, cited in Bradley et al., op. cit.

- *Lahore, Pakistan, slum children:* Seventy-three percent of Lahore slum children were found to be malnourished; 61% were found to be stunted.[65]

- *Dhaka, Bangladesh, squatter children:* In a one-year study, 77% of Dhaka squatter children had scabies, and 16% were infested for more than six months.[66]

- *Malaysia:* In a survey of children in rural plantations and urban slums, the prevalence of *Ascaris* and *Trichuris* was higher in the slums. The prevalence of hookworm was similar in both. An association was found between infection and poor sanitation and overcrowding.[67]

- A field study in 10 slum colonies of New Delhi[68] estimated the prevalence of communicable diseases, including ARI, by types of slum colonies, including unauthorized ones. The highest prevalence (6.5%) of ARI symptoms in under-fives for one month was observed in an unauthorized colony "deprived of basic civic amenities."

- A 1991 presentation on India in an Asian Development Bank–sponsored seminar on the urban poor states: "Based on field surveys and the reports of individual researchers, a recent review of urban poverty concludes that despite better availability of health services in the urban areas, the health of the urban poor, particularly of women and children, is much worse than that of the rural poor . . . . Some of the field studies indicate that birth and death rates in slum areas are higher by 40 to 50 percent and IMRs higher by 1.8 times as compared to non-slum areas."[69]

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[64] Bundy et al. 1988, cited in Bradley et al., op. cit.
[65] Sabir 1984, cited in Bradley et al., op. cit.
[66] Stanton et al. 1989, cited in Bradley et al., op. cit.
[67] Kan et al. 1989, cited in Bradley et al., op. cit.
[68] Gupta, Kuma, and Singh, 1999, Factor Analysis of Acute Respiratory Infections among Under Fives in Delhi Slums, *Indian Pediatrics* 36:11144–1149.
[69] Sivaramakrishnan, in Asian Development Bank and Economic Development Institute 1991.

3 Overview of Urbanization in Asia and the Near East

Global Trends in Urbanization and Urbanism

The world is urbanizing rapidly. Between 1950 and 2000, the percentage of the world's total population that was urban grew from 29.7% to 47%.[70] It is expected that by 2007, the number of urban dwellers will exceed the number of rural dwellers for the first time in history. It is predicted that by 2030, 60.3% of the world's population will be urban.

Most of this growth is taking place in the less developed regions of the world, and particularly in the ANE region. In 1950, Asia was 17% urban. By 2000, this rate had leaped to 37%. Between 1950 and 2000, Asia's urban population grew at a rate of 3.4%, whereas Asia's overall population growth rate was 1.9%. Looking ahead, the urban population of Asia is expected to increase dramatically, from 1.2 billion in 1995 to 2.5 billion in 2025, with more than 400 million residing in cities of 10 million or more.[71] Of the 16 cities worldwide that will have increased their populations by more than 50% between 1996 and 2015, 11 are in USAID's ANE region: Mumbai, India; Dhaka, Bangladesh; Karachi, Pakistan; Delhi, India; Manila, the Philippines; Jakarta, Indonesia; Istanbul, Turkey; Hyderabad, India; Lahore, Pakistan; Madras, India; and Bangalore, India. Two more are in China.

This unprecedented urban growth is occurring on the peripheries of cities, in squatter settlements and illegal colonies of all sorts, and has fostered an equally unprecedented rise in urban poverty. Nearly one billion residents in cities of the developing world are estimated to be poor, with both urban and poverty trends increasing.[72] The number of people living in urban slums is expected to double within the next 25 years, and by 2025, *6 out of 10 children* in developing countries will live in cities[73] and, most likely, in poverty.

The implications for child health programs are clear: An increasing number of USAID's clients—and soon most of its clients—are to be found in urban slums and

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[70] UN Population Division (UNPOP), *World Urbanization Prospects, the 1999 Revision,* Population Division, Department of Economic and Social Affairs, New York: United Nations Secretariat. Available at http://www.un.org/esa/population/publications/wup1999/WUP99COVERPAGE.pdf.
[71] Asian Development Bank, *Emerging Asia: Changes and Challenges,* 1996.
[72] Mehta, D., 2000, *Urbanization of Poverty,* Habitat Debate, vol. 6, no. 4, UN Human Settlements Program (UNCHS), http://www.unchs.org/unchs/english/hdv6n4/urban_poverty.htm.
[73] UNICEF, n.d., Partnerships to Create Child-Friendly Cities, http://www.unicef.org/pubsgen/childfriendlycities/childfriendlycities.pdf.

squatter colonies. This situation calls for some radical adjustments in our ways of thinking and operating if we are to cope effectively with the programming problems and opportunities of urban life, as compared with rural life.

The following statement illustrates the challenge of urban growth for USAID:

> The urban challenges facing the ANE region are immense. The majority of the world's largest and most densely populated cities are found in the Asia and Near East region, and most of these cities are subject to exceedingly high levels of air and water pollution. India's urban population alone, at more than 256 million people, would qualify it as the world's 4th most populous nation. Cairo, already one of the world's most crowded cities, is adding a quarter of a million people every year. Urban and industrial pollution are major and growing problems in Manila, Haiphong, Bombay (Mumbai), Dacca (Dhaka), Bangkok, Jakarta, Shanghai and most major cities elsewhere in the region . . . . Severely polluted air, untreated sewage, and wastewater are severe and escalating threats to human health in many countries. Air and water pollution is estimated to cause more than 2 million premature deaths per year in the region. In the end, the impacts of poorly managed urbanization in the ANE region could very well offset USAID development investment.[74]

The traditional approach in international development assistance has been to focus mainly on rural areas. This rural bias arose for several reasons:

1. When the first international development assistance programs were initiated after World War II, most "developing countries" were predominantly rural—often, as in the case of India, 80% rural.

2. One of the strong arguments for these early development assistance programs centered on the need to help these countries work toward food self-sufficiency through the introduction of improved agricultural methods.

3. Thus, the programs were originally staffed by rural development experts, such as agronomists, animal husbandry specialists, and extension agents in agriculture and home economics, using the methods applicable in rural areas in the United States at that time.

When urbanization accelerated and villagers began to migrate to the cities in increasing numbers, governments and development agencies still assumed that facilities and living conditions in urban areas were far superior to those in the countryside. Two major factors were overlooked: (1) The rural migrants were settling in slums and shantytowns, many of which were illegal and therefore outside the reach of municipal services (e.g., water, sanitation, electricity, health, and education). (2) The urban poor population was growing at about twice the rate of the general urban population.

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[74] Management Assessment of Urban Programs for the Asia and Near East Bureau: Scope of Work, July 16th, 2001, p. 40.

The result of these trends and growth factors is that today in many cities in the ANE region, poor families make up as much as 50% of the population. Thus, even if policies change about extending basic services to the poor, the already overextended infrastructure and services are woefully inadequate for the task. In the face of this situation, the challenge for USAID's ANE Bureau is to meet its child survival goals by finding effective ways of reaching the children of the urban poor. (Annex 3 contains a simplified table of the advantages and constraints facing USAID in urban child health programming.)

Country Examples of Urbanization

A review of urbanization in the three countries selected for this activity report—India, the Philippines, and Egypt—illustrates the pace and effects of urbanization in the ANE region overall.

Urbanization in India

The growth of the urban population in South Asia is striking—not so much for the actual rate of growth as for the sheer numbers of people involved. In 2001, India's total population was 1,029,991,145.[75] In India between 1991 and 2001, the urban population increased 31.2%, whereas the rural increase was 17.9%[76]. Although the actual growth rate was less than those of some other countries in the region, the numbers are impressive: a decadal increase from 217 million to 285 million urban dwellers. Numerically, India's urban population is the second highest in the world, exceeded only by China's, and it is expected to grow between two and three times, to reach 660 million people, by 2025.

To illustrate the scale of these numbers, Ahmedabad, one of Gujarat State's most densely populated cities, has a total of 3,515,361 inhabitants and a density of 18,420 persons per square kilometer.[77] By comparison, Washington, D.C.'s population density is 3,559 per square kilometer.[78] Ahmedabad's population has grown by 38% every decade since 1901. Today, Ahmedabad has 2,432 slum pockets, where over 1.2 million people live.[79]

Much of the growth can be attributed to migration from rural areas due to rural population growth coupled with unemployment and underemployment, but even more can be attributed to natural increase. This is especially significant for this report if one looks closely at which sector of the urban population is growing most rapidly. Clearly, the greatest urban growth is occurring in the poorest sector. Two

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[75] U.S. Bureau of the Census, International Data Base (U.S. Bureau of the Census, International Programs Center), n.d., http://www.census.gov/ipc/www.
[76] Census of India 2001.
[77] Ahmedabad Municipal Corporation, n.d., Ahmedabad Population 1981–2001, http://www.ahmedabadcity.org/population.html.
[78] Demographia, 2001, International Urban Areas Ranked by Density, http://www.demographia.com/db-intluadens-rank.htm.
[79] Counterpart International 2001.

simultaneous trends are noticeable: (1) Cities are growing at roughly twice the rate of the overall national figure, and (2) slums and shantytowns are growing at roughly twice the rate of a city's overall growth.

Urban poverty is often underestimated. In India, data collection is focused on slum populations to the exclusion of populations that cannot be neatly categorized. "Slums" often mean older, established but poor areas of a city, similar to tenements of a century ago in Western cities. Many slums are privately owned and thus not considered in the "slum" category. Still others house high numbers of renters who are not counted. In 1996, 35% to 40% of India's city dwellers lived in slums with a poverty rate ranging from 89% (Calcutta) to 68% (Indore).[80] Surveys show that 40% to 50% of slum dwellers live just below poverty line, 11% live above, and 30% to 40% live well above, indicating that the study of slums does not necessarily mean the study of the urban poorest.[81] The poorest urban dwellers are likely to be found in unrecognized squatter colonies or on the pavement, with no fixed address.

Urbanization in the Philippines

The Philippines shifted from a predominantly rural to an urban society in 1992, when its urban population reached 52%. As described above for India, growth factors of rural migration and natural increase account for the leaps in the urban population of the Philippines. In 1998, the country was 55% urban,[82] and in 2001, the country's total population was 82.841 million.[83] The largest urbanized area is Metro Manila, now a megacity made up of a 17 cities and municipalities. The 1995 population of the city of Manila was 1,654,761,[84] whereas Metro Manila was estimated to have a population of 7,948,000.[85] In 2000, Metro Manila housed 10.5 million people.[86] The Philippines' overall growth rate is 2.3%, and its average urban growth is 3.7%.[87] Smaller cities, such as Cebu and Davao, are experiencing urbanization rates nine

[80] UNDP, India Development Forum, n.d., *Urban Poverty and Deprivation*, http://www.undp.org.in/Report/IDF98/idfurpov.htm.

[81] Barrett, A., and R. Beardmore, 2000, Poverty Reduction in India: Towards Building Successful Slum Upgrading Strategies. Discussion Paper for Urban Futures 200 Conference, Johannesburg, South Africa, 2000. Available on World Bank Web site: http://wbln0018.worldbank.org/External/Urban/UrbanDev.nsf/Urban+Slums+&+ Upgrading/E32E18C4F3DED8EC85256944006A8372?OpenDocument.

[82] Joint UN Program on HIV/AIDS (UNAIDS)/WHO, 2000, Epidemiological Fact Sheet on HIV/AIDS and STIs, Philippines Update.

[83] U.S. Bureau of the Census, International Data Base, http://www.census.gov/cgi-bin/ipc/www.

[84] Philippines National Statistics Office, Population Census, City of Manila, 1995, http://www.census.gov.ph/data/sectordata/prov39.html.

[85] Demographia, 2001, International Urban Areas Ranked by Density, http://www.demographia.com/db-intluadens-rank.htm.

[86] Philippines Commission on Population, 2000, State of the Philippine Population Report 2000, http://www.popcom.gov.ph/sppr/statistics/Incr.htm.

[87] UNAIDS/WHO, 2000, Epidemiological Fact Sheet on HIV/AIDS and STIs, Philippines Update.

times higher than Manila's.[88] The 1986–95 decadal population density of Metro Manila was 19,783 persons per square kilometer.[89]

The rapid rate of urbanization has brought with it rampant proliferation of informal or squatter settlements. Urban policies and programs have not kept pace with the rates of urbanization. Researchers have found that squatters or informal settlers form close to the majority of the urban population in the Philippines. Nearly half of Metro Manila's population lives in informal settlements. In Cebu City, a door-to-door survey found that 58% of all urban structures housed informal settlers.[90] Manila has one of Asia's largest slums, Tondo, with a population of around 590,000.[91] UNICEF estimates that 25% of the Philippines' urban population is poor and that 90% of the urban poor live in informal settlements.[92]

Urbanization in Egypt

The population of Egypt in 2001 was 69.536 million.[93] In 1998 the country was 45% urban.[94] With a 2000 population of 10.6 million, Cairo is the largest city in Africa and the Middle East. The city is projected to reach a population of 13.8 million by 2015.[95] Egypt's average population growth rate is 1.9%,[96] whereas the average annual urban growth rate between 1990 and 1998 was 2.1%. The urban growth rate is expected to slow to 1.7% between 2000 and 2015.

Given current data and anticipated trends, Cairo's population density average from 1996 to 2005 should be 23,148 per square kilometer.[97] The UN Human Settlements Program (UNCHS, or Habitat) claims that over 70% of Cairo's inhabitants are unauthorized squatters living in random housing areas.[98] However, the phenomenon of urbanization in Cairo has been characterized as ruralization, where the outlying

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[88] Racelis, M., 2000, Community Empowerment, People's Organizations, and the Urban Poor, in Yabes and Chifos, eds., *Southeast Asian Urban Environments: Structured and Spontaneous,* Tempe, Arizona: Arizona State University Program for Southeast Asian Studies Monograph Series Press.
[89] Demographia, 2001, International Urban Areas Ranked by Density, http://www.demographia.com/db-intluadens-rank.htm.
[90] Racelis, op. cit.
[91] Demographia, 1995, Manila: Population Density and Population of Areas, http://www.demographia.com/db-manila-area.htm.
[92] UNICEF, n.d., Gender, Partnerships and Participation, http://www.unicef.org/programme/gpp/profiles/countryp.html.
[93] U.S. Bureau of the Census, International Data Base, http://www.census.gov/ipc/www.
[94] UNAIDS/WHO, 2000, Epidemiological Fact Sheet on HIV/AIDS and STIs, Update Egypt.
[95] UNPOP, *World Urbanization Prospects, the 1999Revision,* Population Division, Department of Economic and Social Affairs, New York: United Nations Secretariat. Available at http://www.un.org/esa/population/publications/wup1999/WUP99COVERPAGE.pdf.
[96] UNAIDS/WHO, 2000, Epidemiological Fact Sheet on HIV/AIDS and STIs, Update Egypt.
[97] Demographia, 2001, International Urban Areas Ranked by Density, http://www.demographia.com/db-intluadens-rank.htm.
[98] UNCHS, 2000, Global Trends 2000, http://www.unchs.org/habrdd/global.html.

settlements spreading from Cairo center have taken on many rural features. The poorest of the poor live here, working in the informal sector, if at all.[99]

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[99] Assaad, Ragui, and Malak Rouchdy, 1998, *Poverty Report on Egypt,* Cairo: Ford Foundation.

4 Description of the Urban Poor

A child born into a poor urban family, living in a slum or squatter colony, is surrounded by conditions that challenge its survival from the first breath. Whether the settlement is located in India, Kenya, or Peru, generalizations can be made about housing conditions, availability and quality of municipal services, quality of indoor air and outdoor air, water and sanitation, garbage and drainage, and health and education of children. The squalor of these communities in different parts of the world is such a matter of fact that comparisons are gratuitous. The big differences between countries tend to lie in the relative wealth and well-being of the slum dwellers' better-off neighbors.

Statistical information on the actual living conditions of the urban poor is not easy to come by. Often, official documents are purposefully not explicit. However, a number of studies and surveys of specific settlements do exist (e.g., those of Klong Tuey in Thailand[100] and Manshiet Nasser in Egypt[101]), and more popular publications occasionally report on life and living conditions in the most squalid areas of a city. Understanding the universe of the slum child is critical to developing appropriate health interventions adapted to these conditions.

Location and Living Conditions of Urban Poor

Types of Sites

The urban poor in the ANE region can be found in locations quite different from the urban shantytown that might spring to mind. The poorest of the poor live in informal, illegal squatter settlements that tend to be established on undesirable and ill-defended interstitial spaces, often on government-owned land. Examples would include the land between a railway and a road, in front of a factory wall (where one wall is already there), or on an empty lot, a neglected cemetery, or a garbage dumpsite. Some settlements surround the locus of the original city and the better-off, established neighborhoods; such settlements often sprawl farther and farther out from the center to become truly "periurban." A famous example of creative use of urban space for squatter purposes is Cairo's City of the Dead, where homeless poor immigrants installed themselves in tombs to create communities in cemeteries.

The urban poor can also inhabit former well-off neighborhoods, taking over and subdividing large residential buildings until they become warrens of small dwelling

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[100] Sakornpan et al., 1971, *Klong Tuey, A Social Work Survey of a Squatter Slum,* Thailand: Thammasat University.
[101] Tekce, B., L. Oldham, L., F. Shorter, 1994, *A Place to Live: Families and Child Health in a Cairo Neighborhood,* Cairo: American University of Cairo Press.

units crammed with people, or they can be renters of rooms in similar middle-class neighborhoods and thus difficult to count or even see. Such buildings are registered as privately owned, thus obscuring the poor renters. Many slums tend to consist of inner-city multistory buildings in old dilapidated neighborhoods. In India, only 40% to 60% of the urban poor live in slums or squatter settlements. The remainder live on pavements or in tenements (or *chawls*) or commute to and from periurban areas to work in industrial zones.

Dangers and Risks

Urban squatters frequently occupy dangerous sites where no one else wants to live. In Metro Manila, 11% of informal settlers live in what are considered seriously dangerous areas, such as alongside railroad tracks, riverbanks, and other waterways. Squatters also occupy landfills and garbage dump sites that they exploit by scavenging. The famous "garvalanche," a catastrophic avalanche of garbage caused by heavy rains on Quezon City's mountain of discarded waste in the late 1990s, killed hundreds of people who made the mountain their home and left many others homeless.

The risks of accidents and health problems from contact with toxic and fecal wastes found in such sites are extremely high for young children. In Cairo, families live on trash heaps and contract hepatitis by picking through contaminated medical waste. A study of shantytowns in Pôrto Alegre, Brazil, found IMRs among squatters living on the banks of a polluted river more than quadruple the IMRs in a more distant location. Accidents and fires from cooking fuels inside the homes of the urban poor pose another grave danger to small children, with under-fives being especially vulnerable.

Land Tenure and Legal Status

Lack of tenure (i.e., illegality) is a central characteristic of squatter settlements. The threat of eviction, relocation, or demolition is stressful and traumatic. Fear and uncertainty produce stress-related illnesses, such as high blood pressure, which are often associated with urban dwellers in industrialized Western cities. Such fears are not groundless. For example, an estimated half million people from poor urban communities were slotted for eviction in connection with major infrastructure projects by Metro Manila's government. Resettlement programs have been notoriously ineffective, and people often drift back to the original illegal sites, in part because resettlement colonies are often located where there is vacant land on the far outskirts of cities, making it difficult for people to reach their workplaces in the central city. In addition, the central city offers more opportunities for employment in the informal sector of the economy. (For an example of an NGO addressing the issue of land security and access for the urban poor to municipal services, see the box entitled "Naga Kaantabay sa Kauswagan, Naga City, the Philippines," below.)

Costly and restrictive bureaucracies also exclude the poor from formal (legal) house or land ownership, forcing poor people into squatter settlements. In Egypt,

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Naga Kaantabay sa Kauswagan, Naga City, the Philippines

In 1990, over 5,000 families, or 25% of the 19,500 households in Naga City, were squatters and slum dwellers—double the 1980 figure. These households lacked basic services and were constantly threatened by evictions and demolitions. The Naga Kaantabay sa Kauswagan (Partners in Development Program), together with the local authorities, initiated legislative change and established a tripartite Urban Development and Housing Board, resulting in land-swapping and -sharing schemes for land and security of tenure for squatters, local resource mobilization schemes with beneficiary equity contributions, and basic services for the urban poor. The program received the Galing Pook Award in 1994, and it has been the subject of numerous study tours, seminars, and other means of exchange of experience.[1]

[1] United Nations, n.d., Doing Good: The Best Practices List, http://www.un.org/cyberschoolbus/habitat/dogood/dogood1.asp.

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bureaucratic problems can be especially oppressive for widowed or divorced women and can exclude them from house ownership or establishing credit.[102]

Overcrowding

In 1990, more than 600 million urban dwellers in the developing world lived in "life-threatening" and "health-threatening" homes and neighborhoods because of poor-quality, overcrowded housing, dangerous land sites, and lack of basic services.[103] This number is now much higher. Overcrowding and malnourishment create conditions for the spread of communicable diseases, and especially for increased spread of TB. WHO estimates that a person with TB living in poorly ventilated, overcrowded conditions can spread the disease to 10 to 15 other persons. Economic costs of TB are very high. Estimates for Thailand project a loss of $7 billion by 2025 due to TB sickness and death. In India, the annual economic loss due to TB deaths is $370 million.[104] Adults who smoke near small children in close quarters also increase the risk of respiratory disease for both themselves and the young.

Housing Quality

Squatter housing is often constructed of flimsy scrounged materials, such as plastic sheets, cardboard, or scrap metal, or the cheapest construction materials. Such structures are easily destroyed by floods and storms. A 1999 survey of 106 families from Manila's squatter colonies found houses made of scrap wood and makeshift materials and consisting of one room occupied by more than one family. The majority used the river or open pits to defecate. Riverbank dwellers face yearly flooding, and

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[102] Ford Foundation, 1998, Poverty Report on Egypt, Ford Foundation.
[103] International Institute for Environment and Development, 2001, http://www.iied.org/.
[104] World Resources Institute, Tuberculosis and Urban Inequality, 1998–99, http://www.igc.org/wri/wr-98-99/tubercul.htm.

some are flooded year-round. Most houses were on government land and slotted for demolition by the government.[105]

The Asian Development Bank estimates a housing shortage in India of 40 million units, which translates to over 200 million people living in unacceptable conditions or on the streets.[106] And in Karachi, Pakistan, a city of over 15 million growing by 5% annually, a survey of 800,000 housing units showed 70% as having been shoddily built.[107]

Environmental Health Conditions

WHO's Task Force for the Protection of Children's Environmental Health identifies three main global problems affecting children's environmental health: (1) inadequate access to safe drinking water and sanitation, (2) exposure to air pollution, and (3) accidents, injuries, and poisonings.[108] Available information for urban slums in the ANE region shows how prevalent these problems are.

Water and Sanitation

A key indicator of poverty is the absence of or limited access to water supply and facilities for the disposal of excreta. Lack of such facilities is an important characteristic of urban squatter settlements and slums. It is also a main contributor to child morbidity and mortality, especially from diarrheal disease. A 1995 analysis of DHS data found that in Egypt, children in households that shared toilets are 60% more likely to have diarrhea than children from homes with their own toilets and that in general, the quality of the urban environment has an important effect on the health of children aged six months to three years.[109] A number of surveys have clearly associated access to potable water and sewerage connection with lower child mortality.[110]

In India, 34% of urban dwellers are not covered by piped water supply and must buy water at higher prices than piped.[111] Sixty percent of urban households have no access

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[105] Soco, Andrea, n.d., Manila's Poor, http://www.codewan.com.ph/balay/updates/topstories/updates_manila_0721.htm.

[106] Asian Development Bank, 2000, Market-Based Housing Finance for Low-Income Households, http://www.adb.org/Documents/News/2000/nr2000097.asp.

[107] Mega-Cities Global Networks Project: Karachi, http://www.megacities.org/network/karachi.asp (URL incorrect as of May 2002).

[108] WHO, 2001, Protecting Children's Environmental Health, Plan of Action, Executive Summary, WHO.

[109] Timaeus, I., and L. Lush, 1995, Intra-Urban Differentials in Child Health, *Health Transition Review* 5.

[110] Anqing Shi, n.d. (but after 1998), *How Access to Potable Water and Sewerage Connections Affects Child Mortality,* Washington, D.C.: World Bank.

[111] Barrett, A., and R. Beardmore, 2000, Poverty Reduction in India: Towards Building Successful Slum Upgrading Strategies. Discussion Paper for Urban Futures 200 Conference, Johannesburg, South Africa, 2000. Available on World Bank Web site: http://wbln0018.worldbank.org/External/Urban/UrbanDev.nsf/Urban+Slums+&+Upgrading/E32E18C4F3DED8EC85256944006A8372?OpenDocument.

to sanitation. Access to such services varies widely within a city. In Ahmedabad, for instance, 25% of the population consumes 90% of the water, whereas 75% consumes 10%. In Calcutta, slum areas receive 20 gallons per capita per day, whereas nonslum areas receive 60 gallons.[112] In Karachi, the average water consumption by slum dwellers is 10 gallons per day.[113]

In Ahmedabad in 1998, most slum households shared water and sanitation facilities; water was available only two hours in the morning and a half hour in the afternoon. A survey of slum dwellers found that 63% used communal toilets, but 75% were dissatisfied with them because of lack of water and lack of cleanliness. Another survey of slum households on a riverbank found that 80% had no water connection and 93% had no toilet facility of their own. In Bangalore, a city of over six million, nearly one-third of households had partial or no piped water; those were mostly in the peripheral zones of the city.[114]

In 1996 in Metro Manila, 66% of the urban poor lacked sanitary toilets.[115] Water is bought from vendors at a high price, or lines are illegally tapped. Lack of safe water leads people to substitute soft drinks, which are often cheaper than bottled water. This reliance on soft drinks aggravates the already poor health and nutritional status of the urban poor.[116]

In Karachi, only 38% of households have water connections, only 28% are connected to a sewerage system, and only 4% of biological waste is treated.[117] In Jakarta, 17% of residents have latrines that openly drain into ditches, and 50% buy water from vendors at 50 times the cost of a piped liter.[118]

Solid Waste Disposal

In cities of the developing world, 20% to 50% of all solid waste goes uncollected, and in informal settlements, waste collection is virtually nonexistent. These settlements are often constructed without clear roads or alleys, on steep hillsides, or in other ways or locations that make access by truck impossible. Mountains of garbage become playgrounds for children, work sites for scavengers, and health hazards for all

[112] UNDP, 1998, India Development Forum: Urban Poverty and Deprivation.
[113] Mega-Cities Global Networks Project: Karachi, http://www.megacities.org/network/karachi.asp (URL incorrect as of May 2002).
[114] Satterthwaite, David, and Fiona Nunan, November 2000, Governance for Environmental Improvements: A Comparative Analysis of the City Case Studies. Urban Governance, Partnership and Poverty Theme Paper 21, University of Birmingham, United Kingdom, for DFID. Available at http://www.bham.ac.uk/IDD/activities/urban/case_studies/21.pdf.
[115] Soco, A., Manila's Poor, n.d. http://www.codewan.com.ph/balay/updates/topstories/updates_manila_0721.htm.
[116] Fact Sheet on the Quality of Life in Urban Poor Communities: Issues of Health and Access to Basic Services, http://www.codewan.com.ph/balay/numbers/fs_life.htm (URL incorrect as of May 2002).
[117] Mega-Cities Global Networks Project: Karachi, http://www.megacities.org/network/karachi.asp (URL incorrect as of May 2002).
[118] Catley-Carlson, M., and D. Silimperi, March 1996, *Health and the Environment in Urban Poor Areas: Avoiding a Crisis through Prevention,* EHP Capsule Report 1. Arlington, Va.: Environmental Health Project.

concerned from toxic and fecal waste. Medical waste is posing a new and very serious threat from contaminated syringes and blood products. In Asian cities, uncollected waste is often the cause of blocked drainage canals, increasing the risk of flooding and diseases from stagnant and polluted water. These mountains of waste are also breeding grounds for disease-carrying vectors. A survey of a dumping ground in Cairo found over 50 species of rats, fleas, ticks, and flies. Mosquitoes, breeding in empty containers in dumps, are responsible for dengue and dengue hemorrhagic fever, emerging as the most significant mosquito-borne viral diseases of humans in the past 20 years.[119]

In Asia, industries producing toxic waste are often located near urban centers, and illegal settlements frequently install themselves nearby, either because the land is undesirable for others or because people want to live close to employment opportunities. Toxic emissions, toxic waste dumping, and industrial accidents (for example, Bhopal in India) put inhabitants of these illegal settlements at great health risk.

Collection, recycling, and disposal of solid waste have been a major enterprises of the *zabbaleen* population in Cairo. See box entitled "Zabbaleen Environment and Development Program, Cairo, Egypt," below, regarding a 20-year program related to community improvement in this area.

Air Pollution

Cities in the developing world have two to eight times the maximum tolerable levels of air pollution as defined by WHO. Eighty percent of air-pollution-induced lung infections are among children under five.[120] In Egypt, the Philippines, Indonesia, Thailand, and India in the early to mid-1990s, nearly 100% of urban dwellers lived in cities with air pollution levels higher than WHO guidelines. In Asian cities, motorcycles and three-wheelers account for an increase in urban vehicles that emit huge amounts of smoke and particulates. Cairo is home to 60% of Egypt's industry and 48% of the country's motor vehicles. Lead levels in the air are among the highest in the world, endangering children's intelligence quotients.[121]

Health Service Coverage

Certain health indicators are consistently better in urban areas than in rural ones, due to the accessibility of health services (e.g., clinics, hospitals, private practitioners, and public-sector facilities) for all residents, poor and otherwise. Although the poor cannot afford many of the for-profit health services catering to the middle class or above, a network of publicly funded services reinforced by private voluntary

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[119] Campbell, D., and S. Ault, March 1996, Coping with the Growing Threats of Mounting Urban Wastes, *Voices from the City,* Arlington, Va.: Environmental Health Project.

[120] World Resources Institute, n.d., Life Threatening Air Pollution, http://www.wri.org/health/childair.html.

[121] USAID ANE Bureau, n.d., Perspectives from the Field, Protecting Egypt's Environment, http://www.usaid.gov/regions/ane/newpages/perspectives/egypt/egenv.htm.

Zabbaleen Environment and Development Program, Cairo, Egypt

First conceptualized by the governor of Cairo and the World Bank in 1976, the Zabbaleen Environment and Development Program was launched to improve the living conditions and build the capacity of the traditional garbage collectors in the Moqattam settlement, the *zabbaleen,* while creating a more efficient solid waste management system for Cairo.[1] Before 1981, the Moqattam settlement housed half of Cairo's zabbaleen population but had no local government, schools, health clinics, or sewage systems. Initiated and managed by the Cairo Mega-Cities Host Institution with assistance from the Moqattam Garbage Collector's Association (Gameya), the Zabbaleen Environment and Development Program activities targeted promoting enterprise development and increasing the service capacity of the zabbaleen, improving the quality of zabbaleen settlements, improving environmental and living conditions for Cairo residents, and instituting low-cost technological innovations for dealing with Cairo's solid waste problem.[2] Successful mobilization of the zabbaleen, who have long engaged in the collection, recycling, and reuse of domestic waste (and who are currently responsible for collection and disposal of more than 600 of the 2,000 tons of Cairo's residential waste generated daily[3]), has resulted in numerous health, environmental, and economic benefits. The program has served as a model for other cities—notably, Manila[4] and Bombay.[5]

[1] Mega-Cities Project, http://www.megacities.org/network/cairo.asp (uniform resource locator [URL] incorrect as of May 2002).
[2] Mega-Cities Project, http://www.megacities.org/network/cairo.asp (URL incorrect as of May 2002).
[3] UNCHS, n.d., Turning Good Practices into Good Policies, http://www.unchs.org/unchs/english/hdv6n1/8.html.
[4] U.S. Embassy, n.d., Urban Solutions for Mega-Cities, http://usembassy.state.gov/tokyo/wwwhs016.html.
[5] Mega-Cities Project, http://www.megacities.org/network/cairo.asp (URL incorrect as of May 2002).

organizations often provide maternal and child care, immunizations, health education, family planning, and other services at affordable rates. The health care network is reinforced by private pharmacists (who often function as diagnosticians and prescribers of treatment), private medical practitioners (who sometimes extend credit), and traditional healers and birth attendants (who often operate closest to the very poor in culturally acceptable and economically affordable ways).

Although urban slum dwellers may benefit from accessible, and sometimes even affordable health services, the quality of the care they receive and the availability of medicines, ORS packets, condoms, and other materials at the health centers may be questionable. Other sociocultural or socioeconomic barriers may also impede the use of available health services. A recent study of municipal health facilities in

Ahmedabad[122] covering slum neighborhoods targeted for a child survival project showed the following:

- Urban health centers cover about 66,000 people, and slum residents are willing to travel five kilometers to receive appropriate care, so communities are indeed adequately covered.

- Availability of vaccines and ORS packets is generally good, but few ORT corners are established at health facilities.

- Health workers have knowledge of illness management, but they often lack interpersonal skills, such as those needed to demonstrate ORT and provide counseling.

In Egyptian cities, the poor are being more and more excluded from public health care as NGOs, private voluntary organizations, and religious service providers are establishing themselves. Public health expenditure is not growing; this is not good news for poor women, who especially depend on public centers for reproductive health services.[123]

Sociocultural Conditions, Family Structure, and Family Economy

Along with many other factors, the urban social environment has an impact on the health of its residents. Socioeconomic factors, such as marginalization, illiteracy, class or caste status, and gender, often determine whether a group lives in poverty or not and whether it enjoys the benefits of the amenities and services found in urban settings. Poorer groups of urban dwellers tend to live in neighborhoods that are deprived of municipal services and in poor-quality homes that create unhealthy environments, especially for young children. (See box entitled "Sulabh International, India," below.)

Cities also produce the phenomenon of "relative inequality." Here, poverty is experienced not only in absolute terms but also in relative terms, measured by the inequality of opportunity and resources between the "haves" and the "have-nots" living in close proximity of one another. One result of this is resentment and feelings of hopelessness among the have-nots that often lead to stress, violence, and substance abuse.[124] Stress-related illnesses can be found in both developed and developing cities. In India, some urban poor communities are fragmented and compete for scarce

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[122] Counterpart International, January 2001, *Report on the Baseline Knowledge, Practice, Coverage Survey, Jeevan Daan Child Survival Program, Ahmedabad, India,* India: Sanchetana, Counterpart International, Ahmedabad Municipal Corporation.
[123] Assaad, Ragui, and Malak Rouchdy, 1998. *Poverty Report on Egypt,* Cairo: Ford Foundation.
[124] World Resources Institute, UN Environment Program, UNDP, World Bank, 1996, *World Resources: A Guide to the Global Environment: The Urban Environment,* New York: Oxford University Press.

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Sulabh International, India

Determined to free from a life of servitude and degradation "untouchable" scavengers, whose job it was to clean bucket latrines throughout India, Bindeshwar Pathak established the Easy Toilet Institute, now known as Sulabh International. Sulabh International developed a latrine that revolutionized sanitation technology by replacing the single-pit latrines used commonly throughout India with two-pit flush toilets that use relatively little water, generate biogas that can be used for heating and cooking, and create usable manure after 18 months. To persuade residents in several towns to convert their bucket latrines to the low-cost pour-flush toilets, Sulabh International, an NGO, acted as a catalyst among the government, local authorities, and community residents to improve sanitation. To date, Sulabh has constructed over 700,000 private latrines and 3,000 public toilets throughout India, serving 10 million people in all.[1] In addition, over 40,000 "liberated" scavengers have benefited from vocational training.

[1] United Nations, n.d., Doing Good: The Best Practices List, http://www.un.org/cyberschoolbus/habitat/dogood/dogood1.asp.

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resources, such as water. Community and interhousehold survival mechanisms have sometimes been weakened by social and economic heterogeneity, which leads to an increase in communal violence.

Many households in urban poor areas are headed by women who are the breadwinners, obliged to spend long hours working away from home. This situation contributes to the decline of breast-feeding, which leads to poor health and nutrition consequences for small children. Small children of working mothers are either entrusted to a sibling or other helper or, if old enough, left to their own devices, with adverse psychosocial development effects. Available work and adequate compensation for women are often limited by gender discrimination, and when the breadwinner falls ill, the cost of illness leads to debt, which leads to increased poverty.

In India, a National Institute of Urban Affairs study on the composition of the adult urban poor suggests that 68% are women.[125] Women and children account for over 70% of India's population below the poverty line. Children under 15 years old make up the majority of the urban poor population. This has important implications for public policy decisions. (See box entitled "Mahila Milan, Bombay, India," below, for a description of a program in Bombay [Mumbai] to stabilize the lives of women heads of households and their families.)

In Egypt, female-headed households (14.7% of all households) are 1.3 times as likely to be poor as male-headed households in urban areas, and 1.2 times as likely to be poor in rural areas. Illiteracy also seems to be a strong predictor of poverty, especially in urban areas. The incidence of poverty among households headed by illiterates is estimated to be 48% in urban areas, whereas the estimate is 38% for rural areas.[126] In

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[125] UNDP, India Development Forum, *Urban Poverty and Deprivation*, 1998, http://www.undp.org.in/Report/IDF98/idfurpov.htm.
[126] Assaad and Rouchdy, op. cit.

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Mahila Milan, Bombay, India

The Society for Promotion of Area Resource Centres (SPARC), an Indian NGO, was formed in 1984 to explore ways for urban communities to participate in the articulation of problems in their cities, the identification of solutions to those problems, and the management of development interventions.[1] Because SPARC felt that women were central to the process of community improvement, it began working with an especially vulnerable segment of the Bombay population: women residing in shanties in central Bombay. SPARC mobilized 600 of these women in five settlements to explore the issues of shanty demolition and eviction and of why poor people did not have access to secure housing in the city. These women eventually formed an organization called Mahila Milan (Women Together).[2] Mahila Milan formed a three-way alliance with SPARC and the National Slum Dwellers Federation of India. The organizations began providing training to people in participating urban communities, including assisting women to form Mahila Milan collectives and to negotiate space for their participation in community matters. Mahila Milan interventions include resettlement plans for demolition victims,[3] training women in shelter construction, microcredit, and sanitation. In recent years, and in conjunction with SPARC and the National Slum Dwellers Federation, Mahila Milan has launched a particularly successful and innovative toilet-building program. The alliance has completed construction of 113 toilet blocks in Pune and has begun construction on 320 toilet blocks in Bombay. These facilities will provide safe, clean, working, well-maintained sanitation facilities for up to 200,000 households, or about one million people.[4]

[1] UNESCO, n.d., Gender Sensitive Approach to Shelter Issues of the Urban Poor India, http://www.unesco.org/most/asia6.htm.
[2] Ibid.
[3] United Nations, n.d., Doing Good: The Best Practices List, http://www.un.org/cyberschoolbus/habitat/dogood/dogood1.asp.
[4] "Community toilets in Indian cities . . . the NSDF/MM's toilet-building program scales up in Pune and Bombay," Housing by People in Asia, No. 13, June 2001.

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Cairo, the most recent arrivals to informal urban communities are the poorest of the poor, who also engage in the lowest informal-sector jobs, such as street sweeping, street vending, unskilled factory work, and construction. The poor rely on various forms of social support networks for help in organizing weddings and similar events or to access scarce resources, such as subsidized food and credit.[127]

Evidence suggests that 25% to 45% of the household income among urban poor households is earned by the children.[128] Because a large proportion of the income in poor households is spent on food, children's work and income are crucial to the survival of their families. (This activity report does not attempt to address the issues of street children, abandoned children, and child prostitution, which are of epidemic proportions in certain cities of the ANE region.)

Hidden Strengths in Urban Poor Communities

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[127] Ibid.

[128] Porio, Emma, October 1998, *Urban Poverty and Children in Asia: Issues and Initiatives,* presented at the UNCHS (Habitat) Regional Symposium on Urban Poverty in Asia, Fukuoka, Japan.

It has been said that squatter colonies are not only problems but also answers to problems. They are symbols of the resourcefulness of the poor, who are not helpless victims, but rather are determined and mobile pioneers. (For one example of these strengths, see the box entitled "Orangi Pilot Project, Karachi, Pakistan," below.) Self-help is not a slogan; it is a way of survival. The urban poor provide their own housing, their own jobs, and often their own utilities. Slum dwellers play an important role as traders, manufacturers, and service providers in the urban economy. Many are small-scale entrepreneurs, including water vendors and dust cart pushers. An early study of Calcutta stated that the informal economy bears the same relationship to the formal economy as a colony to the mother country. Many slum or squatter settlements, when researched, turn out to be not random agglomerations, but rather stable and homogeneous communities.[129] The challenge is to tap into the strengths of urban poor communities and use them as the foundation for successful health and welfare interventions.

Orangi Pilot Project, Karachi, Pakistan

In 1980, Dr. Akhtar Hameed Khan launched the Orangi Pilot Project to address the significant sanitation problems facing the approximately one million inhabitants of the Orangi squatter settlement in Karachi. When the first squatters settled in Orangi in the early 1960s, government agencies constructed main roads, the water supply network, electricity lines, and a few schools and hospitals.[1] Until 1980, most households used bucket latrines and soakpits for the disposal of human waste and open sewers for the disposal of wastewater, resulting in a high rate of water-borne disease.[2] Not surprisingly, improving the sewerage system was a top priority for Orangi residents, but the local government refused assistance because of the settlement's unauthorized status. As a result, the Orangi Pilot Project was created, with a three purposes: (1) to provide residents with affordable sewerage systems and sanitary toilets, (2) to organize residents and promote community self-help, and (3) to develop organizations that could construct and operate the systems.[3] By 1993, the community had designed, financed, and built an innovative low-cost sewerage system, installing more than 75,000 latrines and laying over 1.2 million feet of sewer lines. Despite the pilot project's sewer system's not being connected to city pipes because of its unofficial municipal status,[4] the success of the project has attracted the attention of some progressive municipal development authorities in Pakistan as well as international donors. Similar sewer projects have been launched in other Pakistani provinces as well as in other countries.

[1] The Orangi Project in Karachi, Pakistan, n.d., http://www.hsd.ait.ac.th/bestprac/orangi.htm.
[2] Ibid.
[3] World Bank, 1994, Innovative Sewerage in Orangi Project, Karachi, Pakistan, http://web.mit.edu/urbanupgrading/urbanenvironment/resources/examples/orangi-pro.html.
[4] United Nations, n.d., Doing Good: The Best Practices List, http://www.un.org/cyberschoolbus/habitat/dogood/dogood1.asp.

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[129] Black, M., 1994, *Mega-Slums: The Coming Sanitary Crisis,* United Kingdom: WaterAid.

5 Synthesis of Available Urban Slum Child Health Data

Results of a Review of Literature

In general, the available data clearly support the hypothesis that child health in urban slums in the ANE region is worse than national averages or data from rural areas, although the causes of morbidity and mortality are similar for urban and rural children under age five: infectious diseases (e.g., diarrhea), ARI, and vaccine-preventable illnesses.

Overall, there appear to be few studies that disaggregate urban health data into "slum" and "nonslum" categories. To make comparisons, it is often necessary to use data from different sources that have reasonably strong similarities. There are somewhat more data from studies that focus exclusively on the situation of children in urban slums, but few of these take a comprehensive look at child morbidity, mortality, and malnutrition indicators and the determinants of child health. It is possible that such data exist in studies published locally, but they are hard to identify and access from a distance.

The bulk of the literature on this topic is 5 to 10 years old, or even older, indicating a slowdown in interest in urban slum health activities over the past 10 years. There are, however, some signs of resurgent interest among some donors and countries.

Mortality, Morbidity, and Malnutrition

Evidence from the Indian subcontinent, Southeast Asia, and the Pacific shows that the IMR in urban slums and marginalized communities is two to three times higher than national averages and that it is generally higher than in rural areas. There is no clear evidence that this is also the case in the Near East (Cairo), but further study is likely to reveal higher IMRs in the urban slum neighborhoods.

Very few data are available on causes of death in slum children, but where data are available, they show that diarrhea, pneumonia, and vaccine-preventable illnesses lead the list.

Diarrhea and ARI are the most frequently measured causes of illness, probably because they are the most common. In many Asian cities, prevalences of diarrhea and ARI are as high as or higher in slum children under five than in their rural counterparts.

Additionally, malnutrition is widespread and severe in urban slums in Asia. Evidence shows that rates of undernourishment and wasting are higher in urban slums than national or all-urban averages. Data from Egypt show more malnutrition in squatter settlements than in rural areas.

Child Health Determinants

Information available on commonly accepted determinants of child health suggests the reasons for poor health status of small children in urban slums of the ANE region. If childhood diarrhea rates are high in urban slums, one need look no further than the appalling water supply and sanitation situation abundantly described in the literature. The exception is Egypt, where water appears more available in all parts of the urban areas than in Asian cities.

Document after document discusses the lack of potable water in urban poor areas. Slum upgrading programs and other urban infrastructure and service interventions have not kept up with the surge in urban population. Facilities for the sanitary disposal of excreta are also shown as nearly universally lacking, with the exceptions of NGO sanitation initiatives in India and the Philippines and higher coverage in Egyptian municipalities. Sanitation coverage overall is low, and defecation in the open appears to be the norm in Asian squatter settlements. Given high population density in Asian cities, fecal contamination of the environment and water supply must surely be a prime factor contributing to high diarrheal disease rates. High diarrhea incidence also leads to poor nutrition, and the inadequate sanitation and hygiene situation in most slums is likely to indicate high prevalence of intestinal parasites.

Little information exists concerning hygiene practices, but what does exist suggests that such practices as handwashing with soap occur infrequently. One study found a relationship between having one's own sanitary facility and good hygiene practices, but unfortunately there is a widespread lack of toilets in urban slums.

Rates of ORT use in slums vary from country to country, but tend to be low. This influences mortality, not morbidity.

ARI is the other most common affliction (after diarrhea) of small children. As with diarrhea, the determinants associated with ARI indicate that the conditions in slums—crowding and unacceptable indoor and outdoor air quality—promote a high rate of infection. The cities in the ANE region, especially in Egypt, are among the world's most polluted, and biomass fuels used by poor people for cooking indoors produce noxious gases. TB rates are skyrocketing the world over, and they have been estimated to be nine times higher in slums of one Asian city than in nonslum areas.

Poor nutritional status of small children in slums can also be understood by examining determinants leading to undernutrition, stunting, and wasting. At the root, of course, are poverty and the inability to afford food in sufficient quantity and of adequate quality and variety to meet the needs of poor families with young children. Additionally, studies found poor weaning practices in many slum areas, where fewer

than half the infants are given additional food at six months. There is also evidence of low rates of breast-feeding. Although rates of bottle-feeding were not found, we can assume that they are high.

Childhood immunization rates in slums also tend to be lower than urban or national rates or even rural rates. Contagious illnesses, such as measles, spread rapidly in densely populated slums and lead to malnutrition and death. Mothers' prenatal care indicators, certainly in India, tend to be worse in slums than in rural areas—another factor leading to poor health of infants and children.

Areas Requiring Further Study

The main information gaps in available documents and health data sets pertain precisely to the health threats that are most problematic in urban areas, and especially in slum areas, namely, morbidity and mortality rates in children under five for measles, TB, dengue, HIV/AIDS, malaria, environmental toxicity, and accidents. Descriptive references to the overwhelming burden of these afflictions on slum dwellers do occur, however, with some frequency. Clearly, conditions associated with vulnerability to and heightened morbidity from these illnesses and afflictions are rampant in slums:

- Lack of drainage and lack of solid waste collection create mosquito breeding sites.

- Crowded living quarters spread contagious diseases, such as TB and measles.

- Poverty and numerous social stress factors, including gender issues, influence HIV/AIDS rates.

- Traffic, ditches, dangerous indoor cooking fires, and lack of supervision all increase the risk of accidents.

- Foraging through garbage dumps and hazardous medical waste and living in settlements near industrial pollutants increase the risk of exposure to toxic environmental elements.

Further study in slum areas is required for a more exact picture of the risk and burden for young children of HIV/AIDS, measles, malaria, dengue, TB, toxic elements, and accidents. Further study will also provide a basis for programming interventions. Such investigations will most probably show an alarming situation.

The status of micronutrient deficiencies is also unclear and understudied. As with the above illnesses, the assumption is that given the general malnourished state of small children in urban slums, there is a great likelihood that micronutrient deficiency is a problem. Possible exceptions would be slum areas that have recently benefited from supplementation interventions. This could be verified on a country-by-country basis.

Another area requiring further study is health facilities and providers available to urban slum dwellers. Studies and literature show relatively high coverage rates and, in some cases, a high rate of use of health providers by slum populations. It is unclear, however, when and where they seek health care, what the quality and cost of services are, and what their preferences are for health care and types of providers.

6 Players and Programs

Developing and implementing programs in urban areas, as compared with rural programs, sometimes requires different approaches and many new and different partners. Stakeholders are more numerous and varied. Hierarchies and lines of communication tend to be more complex. Some of these individuals and organizations (e.g., municipal officials, ministries of urban development or local self-government, international organizations involved in urban management issues) will be new to the USAID HPN officer, but familiar to his or her RUDO colleagues. The following is an overview of the constellation of urban players that can be found in towns and cities in the ANE region; many of these must be involved or consulted at some point in the program planning process.

Local-Level Urban Health Players

Seekers of health services in cities use both public and private services, although in urban areas private services are more common. These options are open to the poor as well as the wealthy, as knowledge gained by living in cities tends to push people to paying for what they perceive as quality services from the private sector.

- *Municipal health services* typically fall under the city's health department, whose job includes such things as water and sanitation, mosquito control, restaurant and slaughterhouse inspection, and sometimes immunization and municipal clinics. In some places, municipal health departments are headed by public health engineers, who may be new partners for some USAID health officers. When municipal health services do exist, they often have to go "begging" to national ministries of health to obtain vaccines, ORS, or other drugs used in national programs.

- *Traditional health practitioners* are still a major source of advice and health care in many countries. In poorer communities in cities, they are attractive because they are affordable and culturally integrated. They include herbalists and ayurvedic or homeopathic practitioners, as well as birth attendants. They are found, for example, in the Philippines, China, Pakistan, and India. Clarence Shubert has observed: "Few donors have supported specific efforts to link this group except for traditional birth attendants. Interestingly, traditional herbs and food supplements, as well as acupuncture, massage, chiropractic and other less formal health practices, have now become a major part of the health system in the USA and Europe but they are often overlooked in developing countries where they originated."[130]

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[130] Shubert, Clarence, December 8, 2001, personal communication.

- *The private sector* includes private physicians, pharmacists, clinics, nursing homes, and hospitals. "In cities the private sector is more important than government . . . in providing curative services and is also increasingly important in providing public health services through privatization of water supply, sewage, sanitation and solid waste disposal.[131] . . . Bangkok Public Health Department has been very effective in linking with the very extensive and high quality hospitals and clinics throughout the city."[132]

- *Private industry* is another source of health services in cities. Employers may have clinics on their premises for use by employees and their families. Quality varies, and adherence to national standards is equally variable. Sometimes quality can be dictated by international standards when companies are trading overseas (e.g., fish-packing factories required to meet international hygiene standards for exporting their products).

- *National health insurance schemes* linked to government employees and some industries may cater to urban-based populations. To qualify, one must work for the government or be employed by a subscribing employer.

- *Municipal elected officials* are often good advocates for health services, because this wins them votes. They are potential allies in urban health programs.

- *NGOs* are important players in urban slum health programs. They serve people in slums and shantytowns through health centers, clinics, hospitals, and community-based primary health care projects. Others provide guidance in community organization (advocacy training) and health education as part of a comprehensive program to help people gain access to public facilities. A useful way of categorizing NGOs is by the levels of their constituencies: from community based to citywide to national to international.

  - *Community-based organizations* arise from the initiative of local people and are sometimes supported by NGOs from the other levels. There are a wide variety of these, and they are a good place from which to begin health interventions.

  - *Citywide organizations* include Rotary, chambers of commerce, professional and business organizations, and social service religious and ethnic organizations. Some assist the poor as one of many activities; others are set up for that sole purpose.

  - *National organizations* include the Red Cross or its equivalent in Islamic countries, YMCAs and YWCAs or their equivalents, and professional

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[131] See UMP Publications No. 6, *A Review of Environmental Health Impacts in Developing Country Cities*; No. 13, *Private Sector Participation in Municipal Solid Waste Services in Developing Countries*; and No. 19, *Participation and Partnership in Urban Infrastructure Management.*
[132] Shubert, Clarence, December 8, 2001, personal communication.

organizations. These often have chapters at the city or state levels that support local NGOs.

– *International organizations* are many and varied, ranging from CARE, the Catholic Relief Service, the American Friends Service Committee, Oxfam, and Save the Children to the Ford Foundation, the Rockefeller Foundation, and many European agencies. Their activities range from funding local NGOs and community-based organizations to implementing projects themselves. Some of these might be suitable partners for USAID.

– *Roles of NGOs:*

  - Development of innovative demonstration and pilot projects that could be replicated or scaled up

  - Facilitation of communication from people to government and vice versa

  - Technical assistance and training for both NGO and government staffs

  - Research, monitoring, and evaluation

  - Advocacy with and for the urban poor

– *Modalities for scaling up successful NGO projects:*

  - NGOs are most useful when they are developing an innovative and replicable approach in a representative area or when they are complementing or supplementing a government program. The important point is that NGOs cannot be expected to undertake the burden of supplying health services to the urban poor by themselves. They must be valued for the contributions they can make because of their special roles and advantages. In addition, they form part of a larger network of providers in a comprehensive health system designed to achieve universal coverage.

  - The report of a UNICEF-WHO conference on urban primary health care suggested three types of collaboration between government and NGOs in the scaling-up process.[133] In the first, the project is absorbed by the government and becomes an integral part of and helps transform the public health service. The second is a process of cellular multiplication, where, based on a service model, government agrees with selected NGOs on the functional roles that they will play. In the third, once a project has proved itself at the local level, the government may commission it to add

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[133] *Urban Primary Health Care: A Response to the Crisis of Urban Poverty,* an abridged reprint by UNICEF/EAPRO of the Report of the UNICEF/WHO Inter-Regional Consultation on Primary Health Care in Urban Areas, 7–11 July 1986, Manila, the Philippines, p. 13. Quoted in Cousins, ibid., p. 110.

broader education and monitoring roles in support of local projects elsewhere.

National Level

The ministry of health would be a familiar partner at the national level for USAID health officers. Less familiar would be the ministries that deal with city governments and urban affairs, which might have different names in different countries, for example, urban development, local self-government, department of public health engineering. In some countries, engineers head public health departments in small and medium towns. Often, key health programs and resources at the municipal level come from the national ministry of health. Thus, in each country one of the first tasks in planning health projects in marginalized communities will be to gain an understanding of the authority and resource relationships between towns and cities and the national government.

- *International, regional, bilateral organizations, including NGOs,* operate at the national level. These organizations range from UN agencies, such as WHO and UNICEF, to the Asian Development Bank to some less familiar potential partners. Examples would include UNDP, the World Bank, and bilateral agencies supporting decentralization and urban management projects. In addition, national and international NGOs, such as the Red Cross and its local equivalent, CARE, Oxfam, and World Neighbors, might be part of an urban health network.

- *Nationally elected officials* are often good advocates for health programs, because such activities can win them constituents. Thus, they are potential allies in urban health programs.

International Donors

Most donors are relatively new to urban health issues, and, until recently, they have been reluctant to provide resources for anything urban. This must change in the 21st century as urban populations continue to balloon and their health and welfare needs become urgent. Perhaps recent fears of chemical and biological hazards have also raised awareness of the vulnerabilities of urban citizens in densely populated areas.

U.S. Agency for International Development

USAID's traditional involvement in the urban sector has primarily been in the area of urban infrastructure and environmental improvement programs, through its RUDOs. Water supply, sanitation, solid waste disposal, and hygiene education in urban poor areas have been key activities of the USAID-funded EHP, which has provided technical support to missions in these areas and has also sponsored regional workshops and conferences on urban environmental health matters.

In the ANE region, RUDO/South Asia is USAID's primary urban arm, with a pilot slum project in Pune which led to basic service financing and infrastructure provision

in five slum areas of Ahmedabad. RUDO's Financial Institutions Reform and Expansion Program is an innovative municipal-bond-issuing program to finance infrastructure improvements in Indian cities. The program also provides improved urban management and training. RUDO/South Asia currently sponsors an Urban Good Governance Initiative for Nepal, Bangladesh, Sri Lanka, and India. USAID/India assists young children in urban slums through its Vulnerable Children Project, for HIV/AIDS–positive children or children at risk.

USAID's interventions in health programming have historically targeted rural areas. However, a decade ago, the Office of Health initiated a series of technical workshops on urban health programming. The stated purpose of the first workshop, held in March of 1991, is similar to the purpose of this activity report: "to discuss what is currently known, what should be known, and what can be done to address the health problems of the urban poor."[134] The workshop produced themes, important questions to guide health delivery, and nine general findings concerning urban health programming and the role of USAID. The March workshop was followed by another one in June 1991, entitled "Sharpening the Focus." A large number of expert participants from USAID, NGOs, and private voluntary organizations and other public health officials participated in panel and group discussions exploring issues raised in the first workshop and sharpening the focus on the problems, challenges, and opportunities in urban health. The workshop presented various perspectives on urban health and produced a set of guidelines for program planners.

It is not clear that the workshop proceedings led to action in the development of health programs aimed at the urban poor. However, the workshop results are as relevant today as they were 10 years ago, and they should be reviewed and used to formulate policy and program guidelines.

UN Children's Fund

UNICEF has rich experience in urban health programs for the poor and offers models for current programming. From the mid-1970s until the early 1990s, UNICEF's main approach to assisting the urban poor was through the Urban Basic Services Program in a number of countries. Prominent among these were India, Sri Lanka, Bangladesh, Pakistan, the Philippines, and Malaysia. The approach was essentially urban community development with an emphasis upon systematically linking self-help and people's participation with the government service structure. It had a three-tiered design, with community volunteers at the grass roots, who were trained and supported by paraprofessional community workers or community organizers, who also acted as a link with government institutions at the third level. The activities were varied, depending upon what people perceived as their greatest needs, and ranged from water supply, health, preschool and nonformal education to nutrition, environmental sanitation, employment, recreation, and shelter improvement. Thus the Urban Basic Services Program became an effective vehicle for carrying out child survival and

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[134] USAID, Science and Technology/Health, March 1991, Health in the Urban Setting: A Workshop Report, Washington, D.C.

development actions in the 1980s. It also provided a natural foundation for broad community-based health projects.[135]

In the mid-1990s, UNICEF's focus in urban areas shifted from the Urban Basic Services Program to more specific programs, such as Street Children, Child Labor, and Child Rights. Today there is no longer an Urban Section in UNICEF headquarters, although some urban basic services programs still operate in the field. UNICEF's current policy is to expand national programs into urban areas, rather than having a separate urban program, and to promote the concept of "child-friendly cities."

Recent urban programs with a focus on marginalized and slum communities have been carried out in India, Bangladesh, Philippines, Egypt, and the West Bank and Gaza.

World Health Organization

As a follow-up of the 1978 Alma-Ata Conference on Primary Health Care, which had the slogan "Health for All by the Year 2000," WHO and UNICEF included urban primary health care as one of their concerns.[136] In the 1980s, the Strengthening Health Services Division of WHO collaborated with the Urban Section of UNICEF in promoting urban primary health care as an approach to improving the health of the urban poor. This collaboration resulted in the publication, in 1984, of a seminal state-of-the-art report entitled *Primary Health Care in Urban Areas: Reaching the Urban Poor in Developing Countries*.[137]

Two international seminars were also jointly sponsored—in Guayaquil, Ecuador (1984), and Manila, the Philippines (1986)—with participation from representatives of government and NGO field projects. A third workshop, held at Oxford University in 1986, was sponsored by UNICEF, Oxfam, and the London School of Hygiene and Tropical Medicine, with WHO participation. These meetings led to the publication of several articles and books on the subject of urban primary health care for the poor. Two of the most prominent of these are *In the Shadow of the City; Community Health*

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[135] UNICEF, 1982, *Urban Basic Services" Reaching Children and Women of the Urban Poor,* E/ICEF/L.1440, UNICEF, New York (also published in UNICEF Occasional Papers Series, No. 3, 1984). UNICEF, 1986, *Child Survival and Development and Urban Basic Services,* Urban Examples, No. 12, New York: UNICEF.

[136] WHO, 1978, *Primary Health Care: Report of the International Conference on Primary Health Care, Alma Ata, USSR,* Health for All Series, No. 1, Geneva: WHO. See also WHO, 1985, *Primary Health Care in Urban Areas; Reaching the Urban Poor of Developing Countries,* Report and Recommendations Made at 25th Session of UNICEF/WHO Joint Committee on Health Policy, Geneva, 28–30 January, Report No. JC25/UNICEF-WHO/85.5.

[137] A. Rossi-Espagnet, 1984, *Primary Health Care in Urban Areas: Reaching the Urban Poor in Developing Countries,* Report No. 2499M, Geneva: WHO.

and the Urban Poor, a Report of the Oxford Workshop,[138] and *Spotlight on the Cities; Improving Urban Health in Developing Countries.*[139]

By the 1990s, this initiative had not survived the personnel and policy changes that took place in both organizations, but the approach, being viable, is still being carried on in the field. One example is the Kotiwala Project in Davao City in the Philippines.

Other Players

World Bank, U.K. Overseas Development Authority and Department for International Development, and UN Development Program

In the early 1970s, building on the pioneering Calcutta Metropolitan Planning Organization supported by the Ford Foundation, the World Bank assisted in the development of a Slum Improvement Project in Calcutta. This consisted mainly of simple but basic physical improvements, such as the paving of lanes, construction of open drains, and the provision of semiprivate latrines shared by a few families, each of whom had a key. It also developed a management structure to plan and administer the project throughout the metropolitan area. This structure, called the Calcutta Metropolitan Development Authority, was seen as a means of ensuring more effective implementation of the project by bypassing what was thought to be an inefficient and corrupt city administration. Although it did lead to faster action and much less red tape in implementation, it also created some bureaucratic turbulence, not the least of which was figuring out how the municipality was going to maintain the improvements. Nevertheless the pattern was replicated in several other Indian cities, including Madras and Hyderabad. Building on this experience, in the 1980s the World Bank sponsored the Zonal Improvement Program in the Philippines and the Kampong Improvement Program in Indonesia.

In addition to slum improvement, the World Bank also supported "sites and services" projects. This approach was based upon the experience of poor people in providing their own housing in squatter colonies, but with some important improvements. The World Bank projects acquired a plot of land, laid out roads and housing sites, and provided water and sewage lines and plots for public services, such as schools, clinics, and community centers. In some cases land was set aside for small industries or businesses. Then the projects provided each plot with a water tap and a latrine. In some projects they also constructed a roof. The new residents were responsible for

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[138] Harpham, Lusty, and Vaughan, 1988, *In the Shadow of the City; Community Health and the Urban Poor, a Report of the Oxford Workshop.*

[139] Tabibzadeh, Rossi-Espagnet, and Maxwell, 1989, *Spotlight on the Cities; Improving Urban Health in Developing Countries.* See also Joint UNICEF/WHO Consultation on Primary Health Care in Urban Areas, Guayaquil, Ecuador; Unpublished WHO Document SHS/84.5, 1984; UNICEF/WHO Inter-regional Consultation on Primary Health Care in Urban Areas, Manila, Philippines, 1986, SHS/IMS/86.1, WHO; and C. Shubert, Reflections on Primary Health Projects Among the Urban Poor: Implications for Large Scale Program Development, paper presented at the Manila Consultation, Unpublished WHO Document SHS/HIS 86.1, 1986.

constructing their own houses, as they did in squatter colonies, though with better materials than cardboard and plastic bags.

In some countries, such as India and Indonesia, the World Bank turned to UNICEF or coalitions of NGOs to supply what it called *the software component.* That term was applied to such areas as community organization, health, and education. The Calcutta Project had its own Community Development Section and also worked with NGOs. In addition, Calcutta had an excellent community-based primary health care component, with community health workers at the base.

In the 1980s the British Overseas Development Authority also became deeply involved in urban projects in India. It built upon the experience of the acclaimed Hyderabad Urban Community Development Project in designing the social aspects of its Slum Improvement Projects in Hyderabad and Indore. Today, as DFID, British international aid is still heavily focused on India (its largest recipient). DFID's overall goal is the elimination of poverty in the 21st century. Program targets in India include reduction of infant and child mortality by two-thirds and reduction in maternal mortality by three-quarters by 2015. The evolution of DFID's urban program mirrors its overall goals: In the early 1990s, DFID focused on slum improvement with tangible results, but this led to concerns that the poorest of the poor were not benefiting. By the mid-1990s, projects emphasized service improvement to slums through participatory planning and connection to city services. The current realization is that management and governance play critical roles in improving services to urban poor, and DFID projects now have this emphasis.

In the past decade, UNDP, which had earlier devoted resources to urban planning in some metropolitan cities, began to turn its attention more toward the crucial issue of urban management, as has the World Bank and some European bilateral agencies. However, no major development agency, besides UNICEF and to some degree WHO, has had a major focus on child health in marginal urban settlements. One possible exception might be the Integrated Child Development Services program in India, which UNICEF originated. It is now a national program supported by a number of development agencies, both governmental and nongovernmental. It emphasizes child health, nutrition, and early childhood education for preschool children in slums, as well as those in rural and tribal areas.

7 Conclusions and Recommendations for Action

Main Conclusions

1. In general, the available data clearly support the hypothesis that child health in urban slums in the ANE region is generally worse than national or rural averages. However, urban slum children suffer from the same illnesses as rural children, making USAID's traditional child survival interventions relevant to the urban setting.

2. The urban poor are the most rapidly growing segment of urbanizing ANE regions. In the foreseeable future, the majority of USAID's client population will be found in towns and cities. It is impossible for USAID to fulfill its child survival mandate—with a focus on the needs of vulnerable, disadvantaged, or deprived children—without paying special attention to the urban poor population.

3. In spite of skyrocketing numbers of urban dwellers, national and international attention to the infrastructure and service needs of the urban poor has slowed and even stagnated over the past decade.

4. The time for action is now: There is enough cumulative evidence on the health and environmental situation of the urban poor to mitigate the need for further studies of the problem by USAID, unless such studies are directly linked to country- and city-level field programs.

5. An exception to this general view is the persistent need for disaggregated urban slum data in national surveys, such as DHS.

6. A rich historical precedent for urban slum health programs exists and is well documented. UNICEF and others spent decades evolving models of urban primary health care strategies whose aim was to improve the health of children. USAID also has considerable experience in urban work, although not always in the health area. Two major USAID workshops on urban health a decade ago laid out the framework and directions for the agency to follow to address the needs of the urban poor.

Recommendations for Action in Phase II

The recommendations for action listed below are intended for the ANE region health policy and program officers whose concerns for urban slum child health initiated this document.

Asia and Near East Policy

- Develop clear regional policy and program strategies relating to environmental health and child survival for the urban poor in the ANE region.

- Exploit the rich results of past USAID investment in developing policy and program guidelines (1991 Office of Health workshops on health in the urban setting) to guide present policy and program directions.

- Build on the historical precedents and the program models provided by UNICEF and others in urban slum child health.

- Commit financial and technical resources to urban environmental health and child survival at a level commensurate with the urgency of the problem.

- Develop an urban health Web site or Web page as a resource for urban health interventions, with particular emphasis on the challenges of slums and squatter settlements. (Use as a model the ANE Urban Health eRoom developed by EHP; it contains numerous useful documents and Web site references.)

- Support disaggregation and analysis of existing DHS data for cities that have large enough sample size and clearly marked slum clusters.

- Advocate for inclusion of slum sampling in future USAID-sponsored DHSs in the region and any other major USAID health surveys.

Asia and Near East Urban Child Health Programming Support

To develop effective programs for the urban poor, USAID must learn more about the client populations in each country. USAID will also need to understand the complexity of the urban organizational and political context and the key urban players in each country and be prepared to work with (possibly) new partners (i.e., beyond the ministry of health). RUDO officers may be excellent urban guides.

- Offer technical assistance in program development for countries interested in implementing urban slum child health interventions.

  – Identify one or two countries ready and willing to initiate urban slum child health programs.

– Field technical assistance teams to missions undertaking urban health initiatives, to assist in program-related data collection and development of urban child health strategies and interventions (see Annex 4 for descriptions of proposed tasks), using the Phase I indicator set (Annex 1) as the framework. Teams should include a public health specialist (for health status and determinants survey) and an urban issues specialist or sociologist (for slum situation analysis).

● Produce regional urban health programming guidelines as one outcome of Phase II.

Advocacy for Urban Slum Child Health for Asia and Near East Missions

(Advocacy can be initiated simultaneously with country programming initiatives and make use of interim outcomes of the data collection and programming experiences.)

• Advocate for urban child health programming as a policy priority for the ANE region and as an important component of USAID's child survival mandate.

– Distribute the Phase I PowerPoint presentation, the Executive Summary of this report, and/or the whole report to ANE missions.

– Consider subregional urban child health advocacy and programming workshops for missions and potential partners after Phase II programming guidelines are established.

• Identify successful urban slum health programs in the region, and arrange site visits for interested HPN officers and other appropriate mission personnel.

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Annex 1. Urban Slum Child Health Indicator Set

Child Health Status

- Mortality rates and main causes (national and urban, rural, and urban poor, if possible, percentage breakdown)
  - Rates for neonatal and infants
  - Rates for children under 5 years old
  - Causes of death from diarrheal disease, measles, malaria, ARI, HIV/AIDS, TB, accidents
  - Maternal mortality ratio
- Morbidity—same categories as mortality
- Malnutrition
  - Percentages of under-5s with mild, moderate, and severe malnutrition, using weight-for-age measures
  - Percentages of under-5s with vitamin A and iodine deficiencies

Child Health Determinants

- Family practices
  - Breast-feeding
    - Percentage of infants early and exclusively breast-fed up to 6 months
  - Weaning
    - Percentage of children given soft foods at 4 to 6 months
  - Vitamin A supplements
    - Percentage of children receiving vitamin A supplements
  - Immunization rates
    - Percentage of children completely immunized by 12 months
    - Percentage of children receiving measles immunization after age 9 months
    - Percentage of children immunized against polio
  - Hygiene practices
    - Percentage caretakers of small children washing hands with soap after defecation and before handling food
  - Malaria
    - Percentage of households using insecticide-treated bednets for children
  - Diarrheal disease
    - Percentage of children treated with ORS or recommended home fluids
  - Care-seeking
    - Percentage of children taken to a health facility for danger signs of diarrheal disease (not eating or drinking)
    - Percentage of children taken to health facility for symptoms of ARI (fever, cough, rapid breathing)

- Antenatal care
  - Percentage of pregnant women receiving an iron–folic acid supplement
  - Percentage of pregnant women receiving tetanus toxoid vaccine
  - Number of antenatal visits for pregnant women (minimum of 2 is optimal)
  - Percentage of HIV-positive women at antenatal clinics
- Birth spacing
  - Birth interval (median number of months between current and previous birth)
  - Modern contraceptive prevalence rate
- Safe delivery
  - Percentage of deliveries attended by a trained person
  - Percentages of deliveries at home and at a health center
- Availability and accessibility of services
  - Where do people go for maternal and child health and general health care?
  - Private versus public practitioners (include community health workers)
  - What do people pay for health care products and services?
- Environmental health conditions
  - Water supply and sanitation
    - Percentage of the population with access to potable water supply (piped into home, community standpipe, protected well, tanker truck, vendor, rainwater cistern)
    - Percentage of the population using a sanitary facility (flush toilets, latrines, public versus private?) for the disposal of excreta
  - Air pollution
    - Indoor air pollution
    - Outdoor ambient air pollution

Annex 2. Summary of Data for Three Cities

Child Health Determinants

India

CHILD HEALTH DETERMINANTS							
Environmental health: WSS, Air Pollution							
India							
					Ahmedabad	Gujarat State[6]	
	Total	Rural	Urban	City	Slums	Rural	Urban Slums
Access to potable water	62% within 15 minutes [1], 88% [2]	86% [2]	92% [2]		1 standpipe per 340 people [3], 23% slums, 87% non-slums [4]		
Access to sanitary excreta disposal	64% NO facilities, 24% flush toilet [1], 31% [2]	9% flush toilet [1], 14% [2]	64% flush toilet [1], 73% [2]		26% slums, 73% non-slums [4]	35%	48%
Indoor air pollution					41% poor households using biomass fuels at risk for health problems [5]		
Outdoor air pollution				93% at risk for health problems from ambient air pollution [5]			

[1] NFHS-2

[2] UNICEF

[3] UNDP-World Bank Slum Survey

[4] DFID Slum WSS Case Study (1991)

[5] RUDO Env. Risk Assessment

6 UNICEF Gujarat State MICS 1996

CHILD HEALTH DETERMINANTS							
Family practices: Nutrition/Immunization							
India							
					Ahmedabad	Gujarat State[3]	
	Total [1]	Rural [1]	Urban [1]	City	Slums [2]	Rural	Urban Slums
Exclusive BF	55% 0-3 months				41%		
6 month weaning	24% (6 mos), 46% (9 mos)				23% 6-23 mos no solid food		
Vitamin A suppl.	30%				11%	49%	29%
Complete immunization	42%	37%	60%		15%	59%	31%
9 month measles	51%	45%	69%		37%	66%	40%
Polio Immunization	13%	10%	23%		21%		

[1] NFHS-2

[2] Counterpart Slum Survey

[3] UNICEF Gujarat State MICS 1996

Family practices: Infectious diseases treatment and prevention							
India							
					Ahmedabad	Gujarat State[3]	
	Total	Rural	Urban	City	Slums	Rural	Urban Slums
Handwashing					9% [2]		
Treated Bed Nets					2% children slept under [2]		
DD ORS/home fluid treatment	27% [1]	35% [1]	33% [1]		18% [2]	35%	16%
To Health Facility for signs DD	63% [1]	60% [1]	75% [1]		61% [2]	96%	99%
To Health Facility for signs ARI		61% [1]	77% [1]		86%		

[1] NFHS-2

[2] Counterpart Slum Survey

3 UNICEF Gujarat State MICS 1996

CHILD HEALTH DETERMINANTS						
Family practices: Pregnancy and Childbirth						
India						
				Ahmedabad		Gujarat State[3]
	Total [1]	Rural [1]	Urban [1]	City	Slums [2]	Rural	Urban Slums
Iron/Folic Acid	58%	52.5%	75.5%			82%	84%
2 doses Tetanus Toxoid	67%	62.5%	82%		34%	80%	66%
2+ Ante-natal visits	13%	14%	10.5%			49%	29%
HIV+ women at antenatal clinics							
Birth Interval		30.8 months	30.9 months				
Contraceptive Prevalence	48% any method					26% any	23% any
Deliveries attended by trained professional	42%					65%	50%
Home deliveries/health center birth	34% facility	60.5% home	28% home			60% home	55%home

[1]NFHS-2

[2] Counterpart Slum Survey

[3] UNICEF Gujarat State MICS 1996

CHILD HEALTH DETERMINANTS						
Health Service Coverage						
India						
				Ahmedabad		Gujarat State[3]
	Total [1]	Rural [1]	Urban [1]	City	Slums [2]	Rural	Urban Slums
MCH coverage							
General health care							
Private practitioners							
Public practitioners							
Payment for health care							

[1] NFHS-2

[2] Counterpart Slum Survey

Philippines

CHILD HEALTH DETERMINANTS				
Environmental health: WSS, Air Pollution				
Philippines				
				Manila
	Total[1]	Rural[1]	Urban[1]	City	Slums
Access to potable water	87%	80%	92%	50%[2]	16%[3]
Access to sanitary excreta	83%	71%	92%		
Indoor air pollution					
Outdoor air pollution				serious problem	

[1]UNICEF Country Stats 2000
[2]Mega-Cities Project website
[3]UNICEF 1986

CHILD HEALTH DETERMINANTS				
Family practices: Nutrition/Immunization				
Philippines				
				Manila
	Total[1]	Rural[1]	Urban1	City[1]	Slums
Exclusive BF (4-5 mos)	20%				
6 month weaning	61%				
Vitamin A suppl.	71%	69%	73%	72.50%	
Complete immunization	73%	70%	76%	73%	
9 month measles	79%	76%	82%	81.50%	
Polio Immunization	82%	78%	86%	84%	

[1]DHS 1998

CHILD HEALTH DETERMINANTS				
Family practices: Infectious diseases treatment and prevention				
Philippines				
				Manila
	Total[1]	Rural[1]	Urban1	City[1]	Slums
Handwashing					
Treated Bed Nets					
DD ORS/home fluid treatment	65%				
To Health Facility for signs DD	44%				
To Health Facility for signs ARI	58%	53%	65%	70%	

[1]DHS 1998

CHILD HEALTH DETERMINANTS				
Family practices: Pregnancy and Childbirth				
Philippines				
				Manila
	Total[1]	Rural[1]	Urban1	City[1]	Slums
Folic Acid	75% (iron)	52.5%	75.5%		
2 doses Tetanus Toxoid	38%	38.0%	82%		
2+ Ante-natal visits	77% 3+				
HIV+ women at antenatal clinics					
Birth Interval					
Contraceptive Prevalence	17%				
Deliveries attended by trained professional	31% MD, 25% mdwfe				
Home deliveries/health center birth		80%	48%		

[1] DHS 1998

CHILD HEALTH DETERMINANTS				
Health Service Coverage				
Philippines				
				Manila
	Total[1]	Rural	Urban1	City[1]	Slums
MCH coverage					
General health care					
Private practitioners					
Public practitioners					
Payment for health care	40% insured			68% insured	

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Egypt

CHILD HEALTH DETERMINANTS				
Environmental health: WSS, Air Pollution				
Egypt				
				Cairo
	Total	Rural[1]	Urban	City[2]	All Slums[2]
Access to potable water		76%	99%[1], 94%[2]		83% (inside dwellings)
Access to sanitary excreta disposal		90%	99%		95%
Public sewage w/in 100 m			79%[2]		68%
Indoor air pollution					
Outdoor air pollution				lead v. high	

[1]DHS 2000

[2]UNICEF MICS 1997

CHILD HEALTH DETERMINANTS				
Family practices: Nutrition/Immunization				
Egypt				
				Cairo
	Total[1]	Rural[1]	Urban[1]	City	Slums
Exclusive BF	34% @ 4-5mos	3.6 mos	2.2 months		mean 16-17months[2]
6 month weaning					48%[2]
Vitamin A supplementation		20%	27%		
Complete immunization		92%	93%		
9 month measles	94%	96%	98%		
Polio Immunization	92%	95%	94%		

[1]DHS 2000

[2]Manshiet Nasser Study

CHILD HEALTH DETERMINANTS				
Family practices: Infectious diseases treatment and prevention				
Egypt				
				Cairo
	Total[1]	Rural[1]	Urban[1]	City	Slums[2]
Handwashing					12% soap near toilet
Treated Bed Nets					
DD ORS/home fluid treatment		52%	38%		awareness of ORS option
To Health Facility for danger signs DD	46%	43%	52%		55%-65%
To Health Facility for signs ARI		61%	77%, 66%[3]		53%[2], 48%[3] (all slums)
Not seen at Health Facility for signs of ARI			15%[3]		22.5% (all slums)[3]

[1]DHS 2000

[2]Manshiet Nasser Study

[3]UNICEF MICS 1997

CHILD HEALTH DETERMINANTS				
Family practices: Pregnancy and Childbirth				
Egypt				
				Cairo
	Total[1]	Rural[1]	Urban[1]	City	Slums
Iron/Folic Acid					
2 doses Tetanus Toxoid	72%	74.0%	70%[1], 44%[2]	36%[2]	49%[2]
2+ Ante-natal visits	37%	26%	54%		rare[3]
HIV+ women at antenatal clinics					
Birth Interval		32.5 mos	37.5 mos		
Contraceptive Prevalence		52%	61%		58%[2]
Deliveries attended by trained professional		47% with "daya	17% with "daya"		63% with "daya"[3]
Home deliveries/health center birth	52%	65%	30%		80% home[3]

[1] DHS 2000

[2] UNICEF MICS 1997

[3] Manshiet Nasser Study

CHILD HEALTH DETERMINANTS				
Health Service Coverage				
Egypt				
				Cairo
	Total	Rural	Urban	City	Slums
MCH coverage					
General health care				4.9 units p/100,000[1]	
Private practitioners					
Public practitioners					
Payment for health care					

[1]UNDP HDR 1998/99

Child Health Status

India

CHILD HEALTH STATUS				
MORTALITY				
India				
				Ahmedabad
	Total[1]	Rural[1]	Urban[1]	City	Slums
Infant Mortality Rate	68/1000	73/1000	47/1000	76/1000[2]	123/1000[2]
<5 Mortality Rate	95/1000	104/1000	63/1000		
Maternal Mortality Ratio	540/100,000		276/100,000		

[1] NFHS-2 1998-99

[2] 1997 Lakdawala Report on Slums (in Counterpart Int'l KPC Study)

CHILD HEALTH STATUS				
CAUSES OF DEATH				
India				
				Ahmedabad
	Total[1]	Rural	Urban	City	Slums[2]
Diarrheal Disease	28%				28%
ARI	20%				30%
Measles	11%				
Malaria					
TB					
HIV/AIDS					
Accidents					

[1] WHO SEARO Country Stats

[2] 2001 Counterpart Int'l KPC Survey

CHILD HEALTH STATUS				
MORBIDITY				
India				
				Ahmedabad
	Total	Rural[2]	Urban[2]	City	Slums[3]
Diarrheal Disease		19%	20%		37%
ARI		20%	16%		22%
Measles	21,013 cases[1]				
Malaria					
TB					
HIV/AIDS					
Accidents					

[1] WHO Vaccines Global Summary 2000

[2] NFHS-2

[3] 2001 Counterpart Int'l KPC Survey

CHILD HEALTH STATUS						
MALNUTRITION						
India						
						Gujarat State
	Total[1]	Rural[1]	Urban[1]	Gujarat State[1]	Ahmedabad Slums[2]	Rural poor[3]	Urban Slums[4]
UNDERNOURISHMENT	47%	50.0%	38.0%			29%-41%	8%-71.5%
SEVERE WASTING				16%	21%		
VITAMIN A DEFICIENCY							
ANEMIA	74%	75%	71.0%				

[1] NFHS-2

[2] 2001 Counterpart Int'l KPC Survey

[3] NFHS-2 EHP Analysis

[4] UNICEF Gujarat MICS 1996

Philippines

CHILD HEALTH STATUS				
MORTALITY				
Philippines				
				Manila
	Total[1]	Rural[1]	Urban[1]	City[1]	Slums[2]
Infant Mortality Rate	36/1000			24/1000	72/1000
<5 Mortality Rate	55/1000	62.5/1000	46/1000		
Maternal Mortality Ratio	172/100,000				

[1]DHS 1998

[2]Philippines DOH 1993

CHILD HEALTH STATUS				
CAUSES OF DEATH				
Philippines				
				Manila
	Total	Rural	Urban	City	Slums
Diarrheal Disease					
ARI	leading cause of death[1]				
Measles					
Malaria					
TB					
HIV/AIDS					
Accidents					

[1]DHS 1998

CHILD HEALTH STATUS				
MORBIDITY				
Philippines				
				Manila
	Total	Rural	Urban	City	Slums
Diarrheal Disease	7%[1]				2x higher than non slums[2]
ARI	13%[1]				
Measles	2,981 cases[3]				
Malaria					
TB					9x higher than non-slums[2]
HIV/AIDS					
Accidents					

[1]DHS 1998

[2]Mega-Cities Project website

[3]WHO Vaccine Global Summary 2000

CHILD HEALTH STATUS				
MALNUTRITION				
Philippines				
				Manila
	Total	Rural		City	Slums
WEIGHT FOR AGE	28%[1]				
VITAMIN A DEFICIENCY					1.5-3% xeropthalmia[2]

[1]UNICEF Philippines Stats

[2]OMNI Philippines Fact Sheet

Egypt

CHILD HEALTH STATUS				
MORTALITY				
Egypt				
	Total	Rural[1]	Urban[1]	Cairo
				City[2]	Slums
Infant Mortality Rate	55/1000[1]	62/1000	43/1000	26/1000	
Child Mortality Rate	69/1000[1]	79/1000	53/1000	31/1000	
Maternal Mortality Ratio	170/100,000[2]			200/1000	

[1]DHS 2000
[2]UNDP HDR 1997-98

CHILD HEALTH STATUS				
CAUSES OF DEATH (not sure where this came from…)				
Egypt				
	Total	Rural	Urban	Cairo
				City	Slums
Diarrheal Disease	7%	8%	6.00%		
ARI	9.50%	11%	8.00%		
Measles					
Malaria					
TB					
HIV/AIDS					

Accidents

CHILD HEALTH STATUS				
MORBIDITY				
Egypt				
	Total	Rural	Urban	Cairo
				City	Slums
Diarrheal Disease	7%[1]	6%[1]	8%[1], 21%[2]		27%[2] 42%[3]
ARI	9.5%[1]	11%[1]	8%[1], 8%[2]		11%[2] (all slums), 49%[3,]
Measles	1,547 cases[4]				
Malaria					
TB					
HIV/AIDS					
Accidents					

[1]DHS 2000
[2]UNICEF MICS 1997
[3]Manshiet Nasser Study
[4]2000 WHO Vaccine Global Survey

CHILD HEALTH STATUS				
MALNUTRITION				
Egypt				
	Total	Rural	Urban	Cairo
				City	Slums
UNDERNOURISHED (WEIGHT FOR AGE)	12%[1], 4%[2]	5%[2]	3%[2]	8-9%[2]	18%[3]
VITAMIN A DEFICIENCY					
ANEMIA		21%[2]	15%[2]		

[1]UNICEF Country Stats
[2]DHS 2000
[3]Manshiet Nasser Study

Annex 3. Advantages and Constraints to Urban Child Health

Pros: Reasons for Child Health Slum Programming and Predictors of Success	How to Capitalize	
	ANE Region	HPN Officer
1. Sheer numbers of children under 5 in densely populated slum areas—big bang for the buck for certain interventions.	1. Use numbers as an advocacy tool for HPN officers; encourage local data collection.	1. Collect numbers and use them as an advocacy tool for the host government and municipal partners.
2. Mortality rates are as bad or worse than in rural areas, and need is great.	2. Same—advocacy using regional statistics and encouragement of local data collection.	2. Same—collect local slum-specific data, and use the data for advocacy and program planning.
3. Main causes of morbidity in slums—diarrhea, ARI, and measles—and some determinants are the same ones as rural areas (though often worse). These illnesses and determinants respond to familiar child health interventions (improved water supply and sanitation, immunizations, etc.).	3. Use regional profile from ANE study to demystify slum health issues, and encourage local data collection via the USAID country HPN program (ANE funds?) and DHS.	3. Conduct surveys in local slums and squatter settlements on child morbidity and determinants for program planning.
4. Public and private health service infrastructure exists in urban areas and is often accessible to slum populations.	4. Use as an advocacy point; partner with USAID collaborating agencies whose mandate is to strengthen health service delivery systems.	4. Sponsor health facilities and provider availability, utilization and cost survey, include a capacity-building and training component in the slum health program.
5. Numerous NGOs and community-based organizations with social action and improvement goals work in slum areas and have good contacts with and understanding of slum population issues.	5. Promote coalition building and organizational capacity strengthening as part of an urban health strategy.	5. USAID's role can be one of facilitator and coordinator of a network of on-the-ground organizations, using its proven organizational development expertise to enhance local NGO and community-based organizations' capacity to deliver child health services.
6. International attention (multi- and bilateral agencies) is currently refocusing on urban issues; agencies are willing to invest.	6. Liaise with UNICEF, the World Bank, and UNDP to coordinate a regional strategy for urban slum child health. Find complementarities and create partnerships.	6. Coordinate slum activities with identified international agency partners; find complementarities and assign roles and responsibilities.
7. The region has a long and solid history of urban health programs by other organizations.	7. Provide cases and examples (as part of a report?) of successful urban health programs throughout the region.	7. Investigate the history of urban health programming in the country, and build on proven successful strategies
8. Slum and squatter populations are resourceful citizens and,, basically, survivors.	8. Promote community participation from the start.	8. Advocate and model community participation strategy from the start.

Programming

Constraints (Perceived and Real) to Slum Child Health Programming	How to Mitigate These	
	ANE Region	HPN Officer
1. Our picture of slum child health is inadequate. Such factors as HIV/AIDS, accidents, pollution, and hazardous medical and industrial waste are not well documented.		
2. The urban bureaucracy is too unknown to USAID HPN officers and is felt to be too complicated to work with for sustainable programming.		
3. Determinants of urban child health often relate to lack of infrastructure (water supply and sanitation) and weak urban governance, which fall outside of traditional HPN areas of action.		
4. Many organizations (NGOs, community-based organizations, etc.) are already active in urban slums, so it will be hard to find an appropriate role and niche for USAID child health programs.		
5. Illegal settlements are not eligible for services and provision of infrastructure, such as water supply and sanitation.		

Annex 4. Scope of Work for Phase II Data Collection, Policy and Program Development

Phase II is expected to be carried out by a team of consultants composed of a public health specialist and an urban issues specialist.

Objectives of Phase II

1. To assist USAID mission HPN officers in the identification, collection, and analysis of data necessary for developing an urban slum child survival and environmental health program.

2. To provide the mission with the framework of an urban slum child health program based on the results of local research, data collection, and analysis.

3. To produce an urban slum child health programming guide for USAID HPN officers.

Tasks

Objective 1 (In-Country)

1. Conduct a search for locally available reports, studies, and other documents on child health status and determinants in slums, with special focus on information gaps identified in Phase I (HIV/AIDS, biochemical and toxic pollution, accidents, malaria, dengue, TB).

2. Identify existing relevant information and information gaps regarding urban slum child health in the selected city and slum areas.

3. Identify national-, state- or province-, and municipal-level and government and nongovernment urban players—in particular, those responsible for urban slum health and development activities.

4. Identify donor agencies and international NGOs with current or planned urban slum health programs or interest in potential partnership with USAID.

5. Propose a partnership plan.

6. Develop a survey strategy and data collection instruments for morbidity and malnutrition rates, and for the determinants of both, using the Phase I indicator set (Annex 1) for family practices, health facility coverage, use and cost, and environmental health conditions developed during Phase I.

7. Develop a socioeconomic and cultural analysis strategy and instruments appropriate for use in local urban slums to complement the collection of health status and determinants data.

8. Collect and analyze data on health status, determinants, and urban socioeconomic and cultural conditions.

9. Present findings to the mission staff and potential partners.

Objective 2

1. Produce a draft program plan for mission approval, containing the following:

    – Findings on urban slum child health status

    – Findings on the determinants underlying morbidity and malnutrition

    – Results of socioeconomic and cultural analysis

    – Proposed strategies, interventions, and activities

    – Government partners and the institutional framework

    – Local community-based partners and their roles and contributions

    – International agency partners and their roles and contributions

    – Activity timeline and expected quantifiable results

    – Monitoring and evaluation system

    – Anticipated need for technical assistant

    – Estimated budget

Objective 3

1. Distill lessons learned over the course of information collection and analysis.

2. Distill lessons learned in the development of an urban slum child health program.

3. Extract lessons from prior urban health programs and models (UNICEF, etc.)

4. Produce a programming guide for urban slum health for the ANE region.